

Esso Highlands Limited



Papua New Guinea LNG Project

**Moran to Kutubu (KP 65.5 – 80.0)
Communal Resource Plan**

PGHU-EH-SPZZZ-490011

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ACRONYMS

Acronym	Definition
CNGL	Chevron Nuigini Ltd
CRP	Communal Resource Plan
Dbh	Diameter at breast height
EHL	Esso Highlands Limited
EIS	Environmental Impact Statement
ELC	Environmental Law Centre
ESMP	Environmental and Social Management Plan
FN	Family Number
FRV	Full Replacement Value
Ha	Hectares
HGCP	Hides Gas Conditioning Plant
IBD	Interest Bearing Deposit
IFC	International Finance Corporation
ILG	Incorporated Land Group
IPCA	In-Principle Compensation Agreement
KP	Kilometer Point
Lanco	Landowner Company
LBBSA	License-Based Benefit Sharing Agreement
LLG	Local Level Government
LNG	Liquefied Natural Gas
LR	Livelihood Restoration
M&E	Monitoring and Evaluation
O&GA	Oil and Gas Act
OIMS	Operations Integrity Management System
PNG	Papua New Guinea
PNG LNG	Papua New Guinea Liquefied Natural Gas Project
PPL	Petroleum Prospecting License
RAP	Resettlement Action Plan
RIT	Resettlement Implementation Team
ROW	Right of Way
RPF	Resettlement Policy Framework
RTC	Resettlement Team Coordinator
SIA	Social Impact Assessment
SMLI	Social Mapping and Landowner Identification
VG	Papua New Guinea Valuer General

EXECUTIVE SUMMARY

Introduction

Esso Highlands Limited (Company) proposes to develop the Papua New Guinea Liquefied Natural Gas (PNG LNG) Project (Project) to commercialize gas reserves within the PNG Southern Highlands and Western Provinces. This Communal Resource Plan (CRP) focuses on economic displacement resulting from the construction of a 14.5 km onshore pipeline and condensate pipeline between kilometre points (KP) 65.5 and 80, referred to as the Moran-Kutubu CRP.

The pipelines are required as part of the upstream infrastructure development for the Project. The upstream pipeline runs for 292 km from Omati River landfall to the Hides Gas Conditioning Plant. The two pipelines will be installed with a common right of way until the last 1.4 km where the liquid condensate pipeline will exit to the OSL Kutubu Central Processing Facility (CPF).

The average ROW width for this section of pipeline is 50 m which is required for pipeline construction along the narrow ridges and steep slopes of the area, and includes provision for storage areas (topsoil, subsoil and trench spoil), vehicular access and work areas for stringing, welding and pipeline installation. In addition, eight discreet workspaces are required for supporting structures, storage of grading materials and pipe segments, and to accommodate road and stream crossings. The total land area required for construction is 74 ha, decreasing down to a servitude of 15 m during operations, which will be required for the duration of the Project of 20-30 years.

These developments are governed by conditions set out in the Company's Environmental Permit and the Company's Environmental and Social management Plan (ESMP). When the Project closure phase is implemented, pipeline infrastructure will be removed and the ROW will be subject to revegetation, landscaping and other measures detailed in the Company's Environmental Impact Statement (EIS) and ESMP.

Host community approval for the developments has been formally given by the respective landowning clans and committees. An IPCA has been signed by the impacted landowning clans.

Resettlement Goal

The Project's overall resettlement goal is to minimize resettlement where possible, but where unavoidable, to design and implement resettlement in a manner that improves, or at least restores, livelihoods and standards of living of physically and economically displaced persons. This Moran-Kutubu CRP is consistent with goals, principles and processes described in the Project's October 2009 Resettlement Policy Framework (RPF).

Whilst there is no physical resettlement involved, there will be some loss of gardens and communal forest resources (i.e., economic displacement) on customary land.

Institutional and Legal Framework

The resettlement process complies with legal requirements and criteria such as the following: those specified in the PNG Oil and Gas Act (O&GA); key PNG National Government institution guidelines; legislation governing both provincial and local governments; and the International Finance Corporation's (IFC) Performance Standards on Social and Environmental Sustainability.

Social, Economic and Cultural Environment

The following linguo-cultural groups occupy areas in and around the projected ROW from Moran to Kutubu:

1. The Huli who inhabit the areas north-west from Yalenda through Baguale-Homa-Paua-Yarale-Tari-Koroba, and the area on the western side of the Hegegio/Tagari River from South Komo through to Nogoli-Yaluba-Mogora Pugua-Levani and Tangi.
2. The Fasu who occupy the western and south-eastern fringes of Lake Kutubu down to Tamidigi, and who claim land on both the eastern and western borders of the Hegegio/Tagari River.
3. The Foi(e) who inhabit the north-eastern fringes of Lake Kutubu extending along the Pimaga to Poroma Road, and areas around Tubage corner.

Consultation and Disclosure

Consultations and disclosures regarding the proposed developments were conducted in May 2011 at Baguale and Homa-Paua.

Communication mediums included written letters, meetings, oral presentations, flip charts, booklets and flyers in English and Pidgin.

The Company Lands and Community Affairs (L&CA) team conducted land access and IPCA consultations with affected landowners between November 2010 and August 2011. A process of disclosure of documents is in place and will include public dissemination and distribution of the Moran-Kutubu CRP.

Project Impacts

- Ten active and fallow gardens will be impacted with loss of produce and land.
- Loss of 74 ha of forest and other natural resources used for hunting and other resource use. This includes 214 large trees (Beech, Hoop Pine and Strangler Fig) occurring naturally within the forested area.
- Fourteen drinking water sites (mainly used by hunters) will be temporarily affected. Villages may be affected with the crossing of two larger streams (Ayu River and Juni Creek).
- No cultural heritage sites are directly affected.
- No businesses or employment will be lost as a result of the Project. No Community services or facilitates are affected and no disruption of social networks are expected (no displacement).
- Temporary impact of noise, disturbance and dust along main Homa-Paua Road. Appropriate signage and traffic control measures will be implemented during construction.
- Temporary impact on a number of access tracks which will be useable but subject to traffic control and safety measures. After construction the tracks will be free of all impediments.
- Project induced migration is unlikely along the pipeline ROW. The road from Moro to Homa-Paua has been open for more than seven years and pre-dates the Project intervention. There is no through road to Benaria and Tari which would be the next most populous centres in the north and thus a natural conduit for some north-to-south migration of Huli.
- The Naro quarry was previously used as a source of aggregate for the Homa road construction but has since been abandoned. The potential loss of aggregate (if any) will be assessed and appropriate compensation given.

- The ROW area has been subject to various ongoing land disputes both intra- and inter-ethnic since the 1996 development of the Moran Petroleum project. It is considered unlikely the Project will be a further catalyst to the essence of the disputes but clan boundaries along the ROW may be contested.

Eligibility and Entitlements

Those individual households subject to economic displacement due to loss of economic trees or gardens are eligible to receive damage and deprivation compensation as well as livelihood restoration. Landowners will also be entitled to once off and rental payments for damage and deprivation, including loss of access to traditional hunting grounds. This will be paid at Full Replacement Value (FRV) and distributed through clan representatives as per IPCA agreements.

Livelihood Restoration Program

There is impact on ten active and fallow gardens within the ROW area. Livelihoods restoration programs will be implemented for affected landowners.

Grievance Management Framework

A Project Grievance Process has been implemented to receive, respond, and address any grievances made to the Project.

Organizational Roles and Responsibilities

Overall responsibility for the planning, implementation, and monitoring of economic displacement rests with the Land and Community Affairs team.

Monitoring and Evaluation (M&E)

Monitoring and evaluation will provide information on whether clan and individual compensation, resettlement and development investments are providing positive inputs, and to indicate the need for corrective action that may be required to achieve Project goals.

Resettlement Implementation Schedule

A schedule of tasks has been developed to plan and implement the major components of CRP implementation over the latter quarter of 2011 through to 2012.

Cost and Budget Estimate

The cost of the Moran-Kutubu CRP is estimated at approximately US\$ 0.33 million including IPCA clan payments.

1.0 INTRODUCTION

1.1 Background

Esso Highlands Limited (Company) proposes to develop the Papua New Guinea Liquefied Natural Gas (PNG LNG) Project (Project) to commercialise gas reserves within the PNG Southern Highlands and Western Provinces. An onshore gas pipeline and onshore condensate pipeline are required as part of the upstream infrastructure development for the PNG LNG Project. The upstream onshore gas pipeline runs 292 km to transport natural gas from gas fields at Hides, Angore and South East Hedinia to the Omati River Landfall. The onshore condensate pipeline begins at the Hides Gas Conditioning Plant (HGCP) and extends for approximately 109 km to the Oil Search Limited's (OSL) Kutubu Central Processing Facility (CPF). Two pipelines will be installed within a common right of way, until the last 1.4 km of the onshore liquid condensate pipeline (referred to as the Kutubu liquid condensate spurline), where it branches off to the OSL Kutubu CPF, sharing a common right of way with the existing OSL Kutubu spurline.

This Communal Resource Plan (CRP) focuses on economic displacement resulting from construction of a 14.5 km onshore pipeline and condensate pipeline between kilometer points (KP) 65.5 and KP 80. Figure 1-1 illustrates the location of the KP65.5 to 80 section.

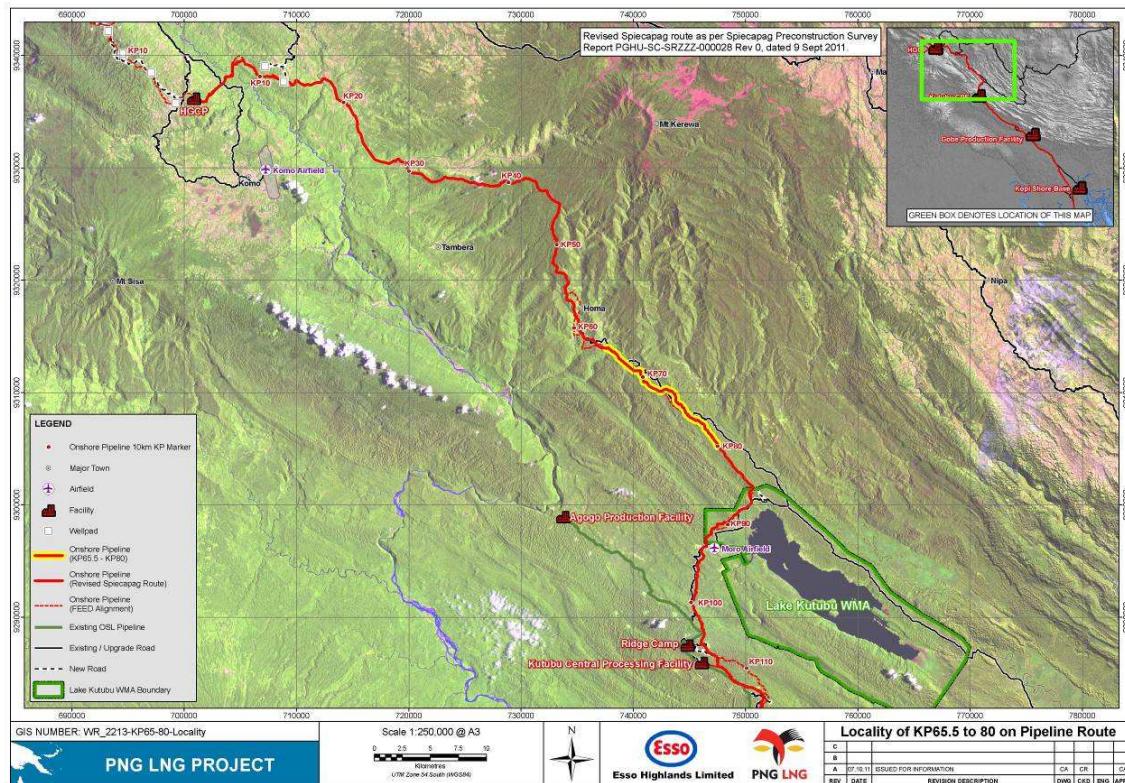


Figure 1-1: Locality Map -Pipeline Section KP80-65

1.2 Project Description

Although the pipeline ROW width is nominally 30 m, increased areas are required on narrow ridges and steep slopes to accommodate the construction spread, which includes storage areas (topsoil, subsoil and trench spoil), vehicular access and work areas for stringing, welding and pipeline installation. Additional areas required are as follows:

1. KP 85.4 to KP 69.4 an additional 10 m required on both sides of ROW (i.e., 50 m wide survey & construction area) to respond to repercussions of narrow ridges, terrain and steep slopes. Excavation of ridges necessary to produce stable wide platform for safe pipeline construction.
2. KP 69.4 to KP 66.0 an additional 10 m required on both sides of ROW (i.e., 50 m wide construction footprint) with 5m survey area (i.e., total 60 m survey area) to meet same conditions described in (i) above.
3. KP 66.0 to KP 65.5 an additional 5 m required on both sides of ROW (i.e., 40 m wide construction footprint) with 5m survey area (i.e., total 50 m survey area) to meet same conditions described in (i) above. This reduced ROW minimises impact on arable land and encounters less undulation.
4. KP 85.4-KP 65.5 an additional 8 discreet workspaces for supporting structures, storage of grading materials and pipe segments, and to accommodate road and stream crossings (Appendix 1 summarises the extra work space requirements).

In circumstances where the above defined maximum ROW width and workspaces were required, the total area to be accessed for construction would be no greater than 74 ha. The ROW required for the 20-30 years operations phase is 15 m.

These developments are governed by conditions set out in the Company's Environmental Permit and the Company's Environmental and Social management Plan (ESMP). When the project closure phase is implemented, pipeline infrastructure will be removed and the ROW will be subject to revegetation, landscaping and other measures detailed in the Company's EIS and ESMP.

This CRP outlines measures that will be undertaken to address impacts on individual and communal resources. The construction, logistics and labour activities will comply with the following social and environmental project plans and protocols:

- Camp Management Plan – PGGP-EH-SPENV-000018-024;
- Community Health & Safety Management Plan PGGP-EH-SPENV-000018-021;
- Community Impacts Management Plan PGGP-EH-SPENV-000018-022;
- Community Infrastructure Management Plan PGGP-EH-SPENV-000018-027;
- Community Engagement Management Plan PGGP-EH-SPENV-000018-026;
- Labour and Worker Conditions Management Plan PGGP-EH-SPENV-000018-023;
- Air Emissions Management Plan – PGGPO-EH-SPENV-000018-004; and
- Noise and Vibration Management Plan – PGGP-EH-SPENV-000018-005.

1.2.1 Construction

A similar construction process will be undertaken as described in the Kutubu-Kantobo CRP¹. In summary, the following approach will be adopted:

- Quarries / Borrow Areas: No quarry or borrow areas outside the ROW were planned at the time this document was prepared. Required aggregate will be obtained for construction activities (grading, etc.) within the defined ROW footprint.
- Construction near Waterways: As per the Company's Water Management Plan, prior to commencement of construction work, people living downstream of watercourse crossings will be informed through community consultation of the type, location, timing and duration of construction activities. For watercourses, which are the sole source of water for downstream users, community consultation will be undertaken prior to construction works to assess appropriate alternative drinking supplies, which may include: trucking water to the community for the duration of construction activities which disturb water supply; rainwater tanks; or other alternatives.
- Pre-construction surveys incorporated social surveys. This process provides early identification of communities whose access to a clean, ready supply of water could be potentially affected because of the temporary construction works. This early identification allows the Project to adopt a proactive approach to ensure communities will always have access to clean water supplies.
- All water crossings within the area covered by this CRP are classified as being 'minor water crossings.' Standard forms of water crossings will be implemented at every water crossing for the purpose of ensuring minimal reduction in water quality and ensuring minimal community disruption.
- Side-Casting: Extra workspaces have been included as part of the construction footprint to assist in the management of spoil and minimization of side casting. In the area covered under this CRP, there are no risks to houses, structures or settlements due to side casting activities outside the ROW.

1.2.2 Operations

Under the Project's licensing conditions (O&GA 1998), the Project is given the right to enter the land, erect buildings, construct roads and install machinery. This provides Project operations the right to maintain vegetation (including removal of trees) to ensure a canopy gap to allow surveillance activities. Post construction access to the Project ROW is required periodically for patrol and inspection of the pipeline to identify erosion and subsidence, checking of cathodic protection, general repairs and performance of maintenance and monitoring.

Upon finalization of construction, measures will be put in place to enable access control as defined under Company's Induced Access Management Plan (PGGP-EH-SPENV-000018-014). The final pipeline easement between from HGCP to Omati consists of a 15 m corridor that is interspersed with Mainline Valve sites, Anode Beds and Blowdown Vents, which are located at strategic positions.

At handover to Operations, as per the Environmental Impact Statement, the ROW will be allowed to naturally regenerate except for a 15 m ROW easement with controlled vehicular access, which will be maintained to provide a gap in the canopy to allow aerial surveillance and general ground maintenance of the pipeline route.

Stakeholder engagement sessions completed and scheduled for this area include communication of the operation based 15 m requirement to the local community. These

¹ Kutubu-Kantobo Communal Resource Plan. Oct 2011

sessions have advised communities that houses and trees cannot be planted within the 15 m corridor but that gardens (shallow rooted crops) are permitted. Host community approval for the developments has been formally given by the respective landowning clans and committees (Section 1.0).

1.3 Resettlement Goal

The Project's overall resettlement goal is to design and implement resettlement in a manner that improves, or at least restores, livelihoods and standards of living of physically and economically displaced persons. This Communal Resource Plan (CRP) (referred to as the Moran-Kutubu CRP) is consistent with the goals, principles and processes set out in the Resettlement Policy Framework (RPF) developed for the Project (October 2009), as relates to particularly to economic displacement.

1.4 Sources of Information

Key sources of CRP information include:

Table 1-1: Key Compliance Documents and Information Sources

Document	Reference
PNG Oil and Gas Act	1998/2001
PNGLNG Environmental and Social Management Plans	PGGP-EH-SPENV-000018
PNGLNG Company National Content Plan	PGGP-EH-BPZZZ-000013
PNG LNG Project Resettlement Policy Framework	PGGP-EH-SPENV-000018-030
PNGLNG Environmental Impact Statement	
PNGLNG Social Impact Statement	
Pre-Construction Survey Report for KP 85.4-65.5 ROW	PGHU-SC-SRZZZ-000028
International Finance Corporation's Performance Standards on Social & Environmental Sustainability – 2006 & 2010 <ul style="list-style-type: none"> ▪ Performance Standard 1 – Social and Environmental Assessment and Management Systems ▪ Performance Standard 5 – Land Acquisition and Involuntary Resettlement ▪ Performance Standard 4 – Community Health, Safety and Security ▪ Performance Standard 7 – Indigenous People 	Performance Standard 1 – Social and Environmental Assessment and Management Systems
Full Scale Social Mapping & Landowner Identifications Moran PDL5 (1997); Hides-Kutubu Pipeline (1991); PPL 194; Pipeline ROW Sections PPL 219 & 233 (2009); Homa-Benaria By-pass Route (2009)	Dr Goldman; Drs Goldman & Weiner
Exxon Mobil Operations Integrity Management Systems (element of Community Awareness on Property Rights and Resettlement)	
Exxon Mobil Policy on Human Rights	
PNG LNG Project EPC5A Onshore Pipeline In-country Contract	A2173038

This CRP is compliant with all the Lenders Environmental and Social Requirements.

1.5 Site Selection and Avoiding/Minimizing Resettlement

The requirement for an onshore pipeline was detailed in the project prospectus outlined in the original EIS.

As described in section 1.1 above, the required work and survey areas have been reduced where possible to avoid impact on arable land. Between KP 69.4 and KP 65.5 the ROW alignment has been shifted to 15 m southwest within the footprint to avoid houses, gardens and various cultural heritage. Similarly between KP 76 and KP 72.2 an alternative route has been designed to avoid multiple landslips, houses and gardens; this new alignment, at its maximum, is some 680 m away from the original route and adds 460 m to the overall length of the pipeline.

2.0 INSTITUTIONAL AND LEGAL FRAMEWORK

The principal PNG legislation relating to land and compensation are the 1996 Land Act and 1998 Oil & Gas Act. PNG has no formal resettlement policy or statute.

The resource planning process will comply with all legal requirements and criteria, such as those specified in the O&GA, key PNG National Government institution guidelines, legislation governing both provincial and local governments and the International Finance Corporation's (IFC) Performance Standards on Social and Environmental Sustainability².

3.0 SOCIAL, ECONOMIC AND CULTURAL ENVIRONMENT

The region's geology is characterised by predominantly Miocene limestones and siltstones of the Nipa group (Davies and Eno 1980). Though limestone forms much of the surface geology of the northern Tari region, Pleistocene volcanic activity from five local but now dormant Highlands volcanic centres has infilled this earlier landscape in various basins. The richest soils in the region are generally the alluvial and colluvial margins of the major rivers, and the peaty soils of the wetlands.

Vegetation on the floors of most of the valleys and basins is almost entirely anthropogenic, with closed and open canopy forest representing only between 2.4% and 6.8% of cover, compared with 84% of forest cover on the steep slopes of the inter-basin ridges. Common planted tree species include Casuarina oligodon, Ficus copiosa, Dodonaea viscosa, Glochidion pomiferum and Homolanthus sp. Repeated clearance and declining soil fertility in certain areas, such as the slopes along the northern banks of the Lower Tagali River, has resulted in extensive anthropogenic grasslands of Imperata cylindrica and Misanthus floridulus.

The landscape along this 14.5 km long section of the pipeline ROW ascends from 1,000 to 1,700 meters and consists of a series of undulating narrow ridge lines flanked by steep side slopes and swampy areas. Landslips are common in this environment. Vegetation is dominated by Nothofagus and the forest is largely undisturbed along this part of the ROW.

The proposed pipeline ROW emerges from PDL2 and enters through PPL219, PPL233 before entering PDL5 (see Figure 3-1).

² Further details are available in Section 2 of the Esso Highlands Limited PNG LNG Project Komo Airstrip Resettlement Action Plan, November 2009 (revised November 2010).

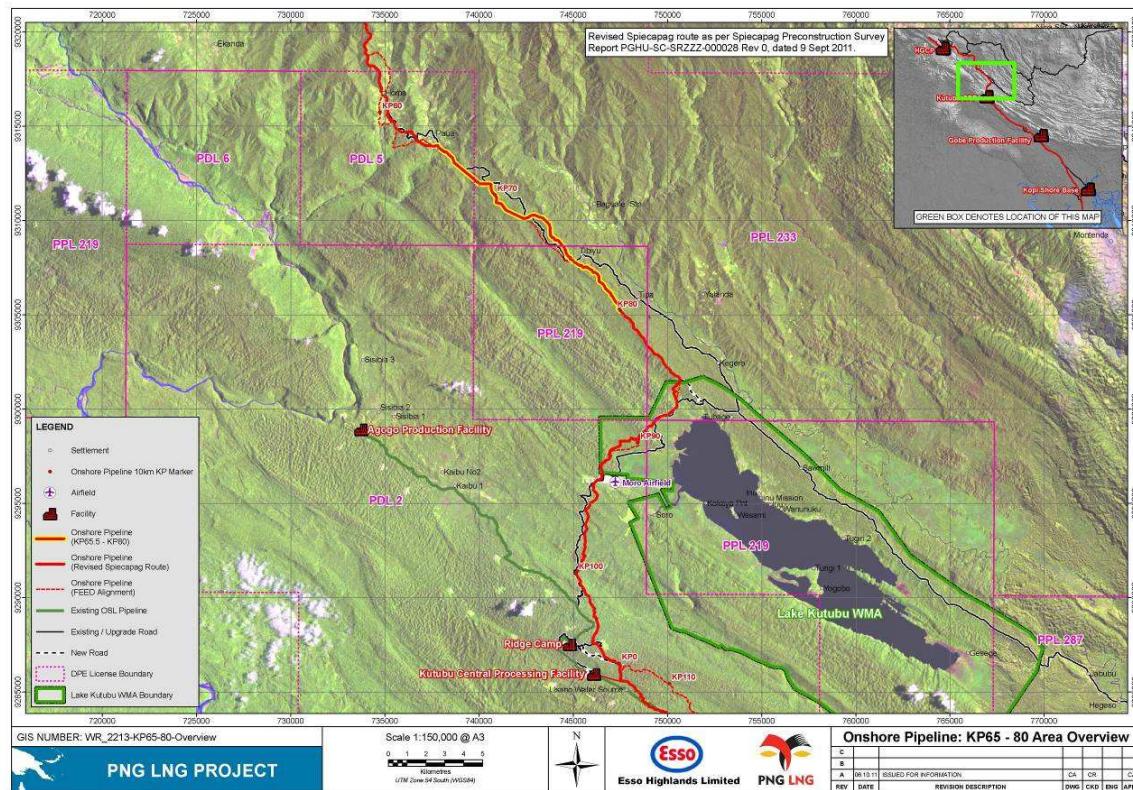


Figure 3-1: Moran-Kutubu Pipeline ROW License Areas

3.1 Brief History of the Area

The history of this section of the pipeline is best characterized by key events in the pre- and post-colonial periods. Prior to the 1960's the Kutubu-Tubage area was utilized as a trade route between Huli and Fasu, Foe and Onabasulu people. Huli would purchase *tigasso* tree oil and shells from the lowland groups and trade their own pigs as far south as Kikori. Wola people from the Margarima and Mendi areas had been gradually moving south-west into the Moran and northern Kutubu regions for some 60 years prior to the 1970's.

Whilst some inter-ethnic marriage between Huli and Fasu and Wola is evident from the genealogical accounts collected, the increased pace at which this occurred was triggered by the development in the 1990's of the Kutubu and subsequently the Moran oil project.

From 1992 production at Kutubu rose rapidly to more than 100,000 barrels per day as processing facilities were finalized and additional production wells commissioned. In 1996 the Moran oil field was discovered and commercial oil started flowing from an extended well test from the Moran oil field for processing in Kutubu facilities in January 1998. Subsequent to this Moran was established as a full-field development and registered as PDL5.

The Moran Field Unit Area is situated within Licences PDL 2 and PDL 5. The North West Moran 1 well was drilled in neighbouring Licence PPL 219 in Graticular Block 1933 during 2003 and subsequently developed at PDL6. The flowline runs from the NW Moran 1 well for 7 km and joins up with Moran 4/6/9 wellheads. The route from Moran 4/6/9 through to Agogo Production Facility (APF) follows the existing Moran road for a further 22 km.

The culmination of these oil projects was greater interaction, trade and marriage between Moran Huli and northern Fasu clans. The Fasu foresaw further resource developments in NW Moran and Mananda and ensured both that they participated in benefit streams through

inter-marriage and supported Huli claims in the area. In effect there were no settlements south-east of Homa-Paua until Kutubu but once the pipeline and road infrastructures were in place various enclaves sprang up around Kegero and Tubage junction. Fasu clans continued to claim the lowland Tagari river banks whilst Huli claimed land higher up the mountain sides.

The migration trajectory has been for Moran Huli to slowly move further south-east into the Sisibian and Kaipu villages where more than 40% of people now speak Huli, not Fasu. However, because these patterns of change are fairly embedded for the last decade, we consider it unlikely the addition of a new gas pipeline ROW will substantially alter the social landscape. The fact that the Moran-Kutubu road does not go further north-west to Yarale and Benaria means there is no major migration route for northern Tari people to travel direct to Moran-Kutubu locales.

The Moran-Kutubu settlements are relatively advantaged by virtue of the decade long benefits that have flowed from the oil projects. There are good roads, and health and education facilities are amongst the best in the Southern Highlands.

3.2 Ethnic Group Population

The Homa and Paua valleys are deeply incised tributaries of the Lower Tagali with limited areas of cultivatable land on narrow river terraces. Historically, these valleys represented a borderland zone whose residents may have been bi- or even tri-lingual (speaking Huli, Fasu, Foi or West Mendi). Figure 3-2 shows Moran Huli bordered by Wola in the east, Margarima Huli to the north-east, and Tari Huli in the West.

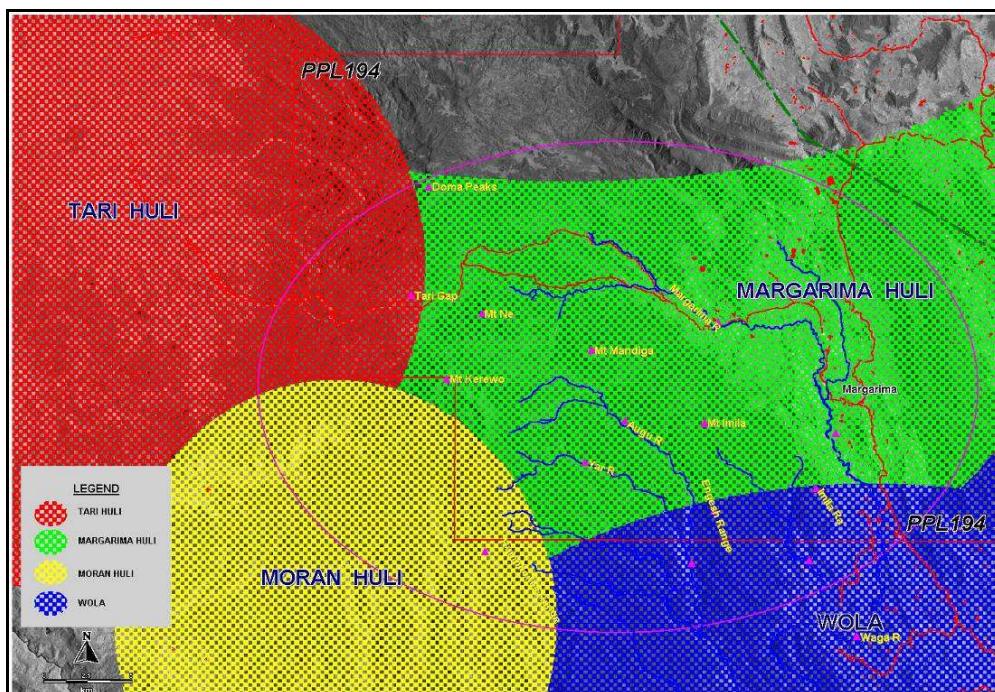


Figure 3-2: Moran Huli Environs

The ROW area is the southernmost locale of Huli, and indeed many of the Moran Huli clans were immigrants from the Margarima area. It also represented the northernmost extent of Fasu land areas, mostly along the banks of the Tagari River as represented by Kutu, LapiLapi and Sebere Geso. Furthermore, some Foe clans also make claims to land in the vicinity of the northwest reaches of Lake Kutubu, e.g., Orodobo Ufuma.

The area was never densely settled (see Appendix 3). Currently, the dominant language is certainly Huli, and the terms employed to describe cultural heritage sites are Huli in inspiration (though the original character and function of some or all of these sites may have differed significantly from classic Huli practice).

3.3 Cultural Context

3.3.1 Social Organization of Clans

The Huli have agnatic descent and lived traditionally in scattered households. The most important social groups to which an individual belongs are the totemic patrilineal clans (*hameigini* - 'father-son line'). Most clans have representatives in more than one village — i.e., the totemic named clans are dispersed — so that what one encounters in each place is in effect a local clan segment. A more detailed understanding of Huli social structure, land tenure principles and cultural behaviour is contained in the Komo Airstrip and HGCP RAPs and need not be reproduced or duplicated here. In respect to Foi and Fasu social organization, accounts of this can be found in the Kutubu-Kantobo CRP.

3.3.2 Moran-Kutubu ROW Clans

Figure 3-3 lists the main landowning clans associated with ROW section KP 80-65. All clans variously reside in the settlements of Paua, Baguale, Homa and Tubage. Ownership of land between KP76-72 is currently contested between three clans—**Tigibi**, **Hugu** and **Dagabila**. Appendix 2 contains a full listing of clans for various Moran communities and Appendix 3 provides a history of land disputes in the Moran ROW area.

Table 3.3: Moran-Kutubu ROW Clan List

Goldman 1997 ; Goldman & Weiner 2009	SMLI Map (Figure 3-5) References	Goldman 1997; Map 22 & Goldman & Weiner 2009	Cultural Heritage (Total Survey Area) Clans 2011
			Tigibi [Mali, Kenogo sub-clans)
Sogofani clan (Orodobo sub-clan)- Ufuma	412	17	Ufuma (Orodobo clan)
Tigibi	204	19	Tigibi
Hugu	203	20	Hugu
Baru	508	23	Baru
Dago(a)bila	-	(Initially under Hugu (yamuwin)	Dagabila

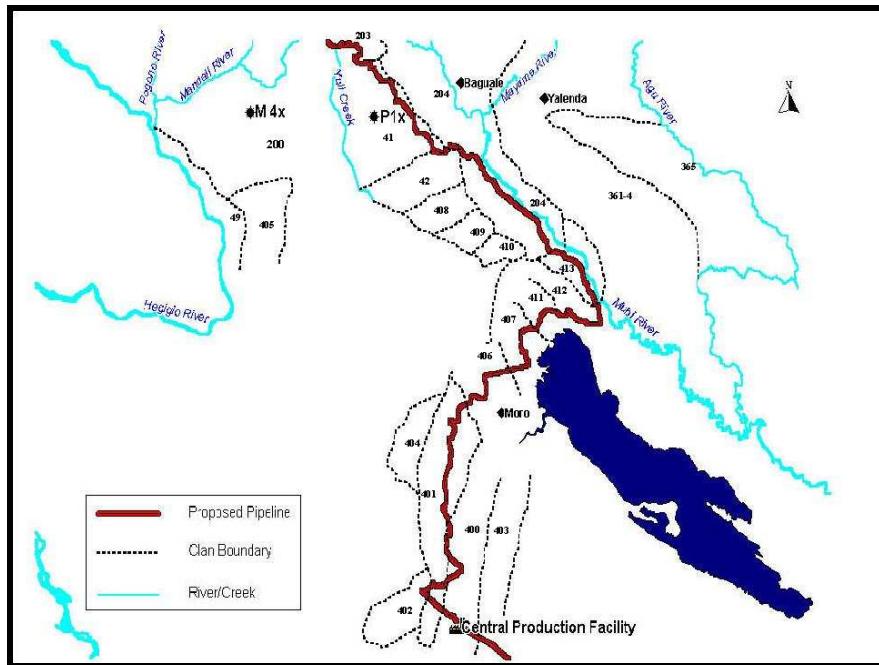


Figure 3-3: Pipeline ROW Sketch Map and Relative Clan Dispositions (Goldman 2001)

3.4 Social Infrastructure in Moran ROW Locale

The Moran project Mendi Accord—Development Agreement on Moran oil project benefits—delivered good social services to Baguale, Homa and Paua (see Figure 3-5 and Figure 3-4). Chevron (CNGL) used the tax credit scheme to construct the Homa road (26 km) at a cost of K25 m.



Figure 3-5: Baguale Community School Building constructed by Chevron



Figure 3-4: Baguale Health Center constructed by Chevron

4.0 IPCA & LAND REQUIREMENTS

The objective of IPCA was to obtain agreement with all clans, within the development area, on compensation payments that will be made for losses, damages or deprivations that may arise from Project development. Table 4-1 provides a summary of the status of the IPCA signed for the Moran-Kutubu ROW development.

Table 4-1: Status of IPCA

SITE	Date – Status
Tubage-Homa ROW	A general IPCA has been signed (August 2009) for this area with 24 clans/sub-clans of Baguale, Homa and Paua.

5.0 CULTURAL & SOCIAL SITES

5.1 Cultural Heritage Sites

Initial archaeological research and report on this general area was undertaken for the PNG Gas SIA 2005 by Drs Ballard (ANU) and Araho (National Museum). Those scientists remarked that there “were very few of the ritual sites such as ancestral settlement sites (*gebeanda*) that, in Huli culture, conventionally mark longstanding historical ties to territory. Instead, the majority of sites are sacred pools (*iba kuyama*) at which sacrifices have been made or caves (*egeanda*) used as hunting shelters and ossuaries. The Baguale portion of the pipeline route consists of a long ridgeline extending down towards Lake Kutubu. Site density in the Baguale area is relatively low.” (EIS PNG Gas SIA 2005). The preponderance of reported burial sites in the Homa-Paua area, and the low proportion of ritual sites such as *gebeanda* or *liruanda*, is suggestive of a relatively shallow history of engagement with the landscape. Table 5-1 lists the sites close to the ROW, with none being directly affected.

Table 5-1: Moran-Kutubu ROW

KP	ID	Cultural Heritage/ Spiritual Sites	Comment
66	06-CH-003	Ossuary	Located outside ROW
73	07-CH-015	Doline pool said to be used for healing in past. Said to be ‘liru’ ³ , but probably <i>iba kuyama</i> . Oral tradition site	ROW moved 15 m south to avoid.

Figure 5-1 illustrates the distribution of these sites. A number of sites will be affected in the next northern section of the pipeline (Paua area – KP55 to 65).

³ *Lir(du)anda* were sacred sites where usually stones were kept and which were known as *lirukui* (i.e. ‘bones of spirit *liru*’). It is unusual that a pond was referred to as *liru*, though conventional that small ponds were often associated with spirits.

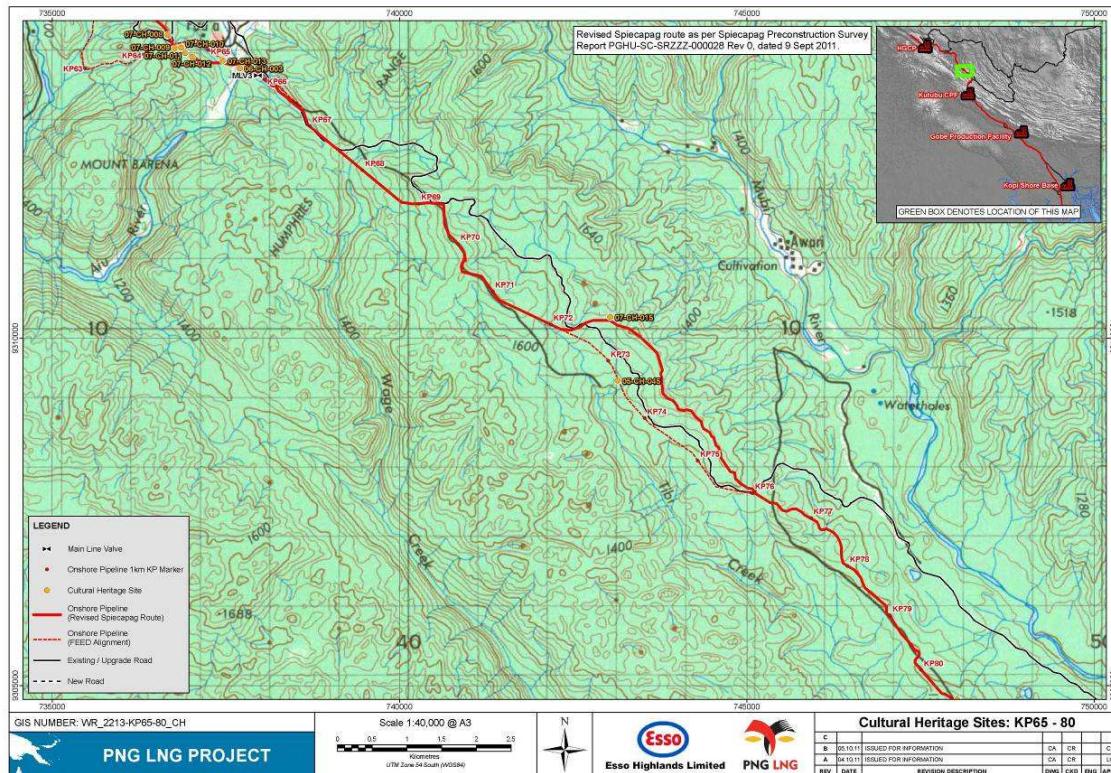


Figure 5-1: Moran-Kutubu Cultural Heritage Site Map

The Project's cultural heritage programs and protocols (e.g., Mitigation Measure 237 of Cultural Heritage Management Plan) have been developed to deal with both archaeological evidence and secondary burials and to ensure that, where appropriate, relocation of ritual items occurs in accordance with local custom. The Project's preferred management approach for known cultural heritage sites is avoidance. For sites that cannot be avoided however, appropriate management measures may include sample salvage-excavation and/or salvage through surface collections.

5.2 Social Sites

A total of 30 relevant social features/assets, including sources of water, gardens, clan boundaries, roads, tracks and gardens, were identified along the ROW. All of these can be mitigated to minimize impact. A summary of these social features are included in Appendix 6 and illustrated in Figure 5-2.

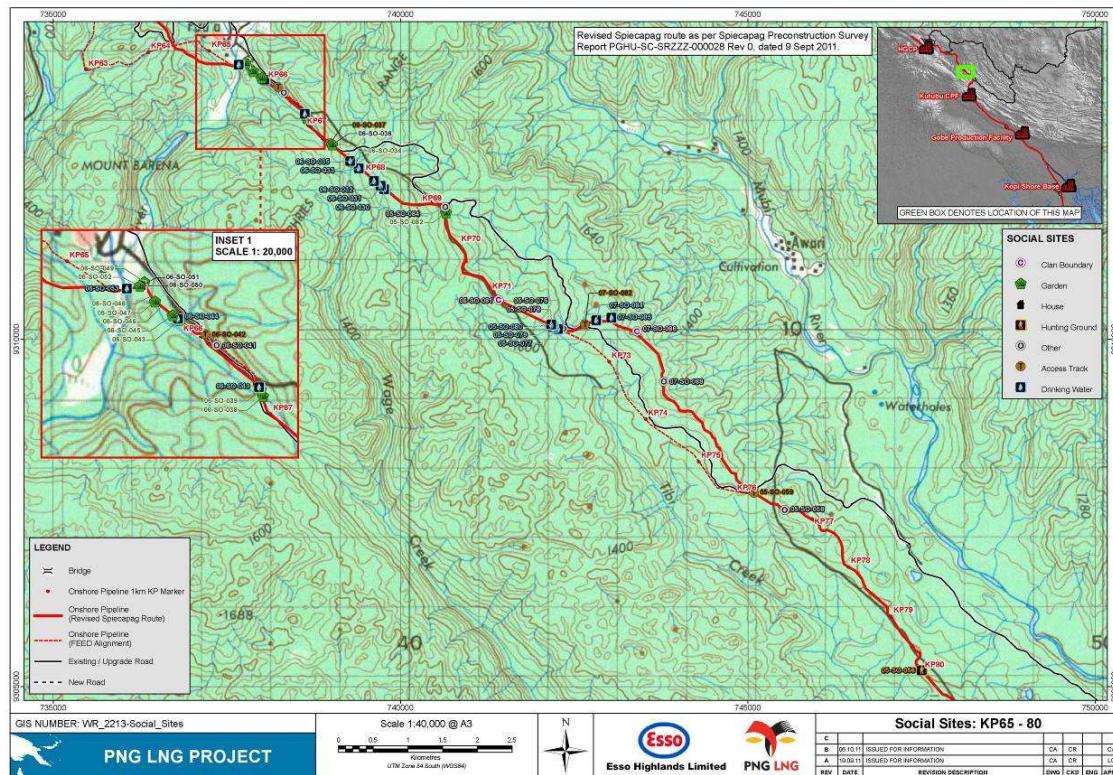


Figure 5-2: Moran-Kutubu ROW Social Sites Locations

6.0 KUTUBU-MORAN CONSULTATION AND DISCLOSURE

A specialist resettlement team from the Company (Table 6-1) conducted resettlement public consultations along the Moran-Kutubu ROW in May 2011. The Environmental Law Centre (ELC) played an active monitoring and review role as an impartial observer.

Table 6-1: Summary of Moran-Kutubu Issues raised at Public Consultation

Resettlement Awareness						
Village	Date	Awareness Team*	Male	Female	Number of Attendees	Total
					Children	
Baguale	06/05/2011	RIT, L&CA & ELC	47	15	15	77

The main issues raised related to environmental concerns, duration of construction, access to land after construction and employment.

6.1 Summary of Project Impacts

Host community approval for the developments has been given both by all the affected clans along the proposed pipeline ROW from Tubage to Homa-Paua.

Table 6-2 below summarises principal impacts likely to be experienced by the ROW landowners and communities.

Table 6-2: Principal Impacts Expected

Impact	Scale	Mitigation – Project Responses
10 active and fallow gardens	Planted to garden produce	As per O&GA section 118 and Eligibility Matrix landowners are entitled to one-off damage compensation payments. Owners of gardens and planted trees will be compensated for loss of crops and trees at full replacement value.
Loss of forest/other natural resources	74 ha communal forest resources will be lost with some minimal hunting ground area impacted. This includes 214 large trees occurring naturally within the forested area - Beech (<i>Nothofagus</i> sp.), <i>Cryptocarya</i> , <i>Dillenia</i> , Hoop Pine & Strangler Fig.	As per O&GA section 118 and Eligibility Matrix these affected landowners are entitled to temporary loss, damage as well as deprivation compensation. All currently negotiated rates will be verified against market rates These payments are made to the respective landowning groups (i.e. clans or clan segments) and have to be shared out amongst the respective members in accordance with custom. In the event of disputes the money is held in escrow until the dispute has been resolved either formally through the court system or informally. Large trees (>1 m dbh) within the ROW will be retained where practical especially where situated on the edge of the construction footprint
Water	14 drinking water sites (mainly used by hunters) will be temporarily affected. Villages may be affected with the crossing of two larger streams (Ayu River and Juni Creek).	Overall drainage patterns will be maintained and no irreversible impacts envisaged. Ecological management Plan mitigation measures in place. Construction plan for drainage will be approved and reviewed by DEC. All stream flows restored following construction. Alternative water supplies provided if required.
Cultural Sites	None	Cultural Heritage Management Plan in place should sites be identified during construction.
Impacts on business/employment: No existing business. No loss of employment anticipated and there are no businesses which require relocation or compensation. Residential, business, structures, pedestrian users of the Moran-Kutubu road	Increased traffic and construction dust, noise and inconvenience will produce moderate interruptions to normal flow of traffic.	Road Traffic plans and Company's Air Emissions Management Plan & Noise & Vibration Management Plan implementation and monitoring
Access	Temporary interruption of access along traditional access tracks.	Alternative routes to be provided. Appropriate traffic controls, signage and monitoring to be undertaken.

Impact	Scale	Mitigation – Project Responses
Induced Access	Temporary and minimal	Induced access resulting in increased logging is considered a low risk. The areas are already accessible by foot and vehicles (road constructed 7 years ago). There is no through road to Benaria and Tari which would be the next most populous centres in the north and thus a natural conduit for some north-to-south migration of Huli. There are no ongoing Project developments in these locales that would offer employment, business or leisure opportunities. Huli, who prefer to be near the Moro complex, tend to reside in the northern Fasu villages of Sisibia #1-3 and Kaipu; Some influx from Benaria and Yarale likely by those seeking employment or voyeuristic interest.
Disruption in social networks	No physical relocation. Some impact from contractors' workers operating in the area and using the Moro-Moran road.	Minimal
Naro Quarry	Previously used as a source of aggregate for the Homa road construction but since abandoned.	The potential loss of aggregate (if any) will be assessed and appropriate compensation given
Community services or facilities	No physical relocation.	Re-scheduling of heavy traffic during Congregation and school times for those in and around Baguale.
Land Disputes	Unlikely that Project will be a further catalyst to existing disputes.	The ROW area has been subject to various ongoing land disputes both intra- and inter-ethnic since the 1996 development of the Moran Petroleum project. It is considered unlikely the Project will be a further catalyst to the essence of the disputes but clan boundaries along the ROW may be contested.

7.0 ELIGIBILITY AND ENTITLEMENTS

The RPF provides a full schedule of eligibility criteria for compensation and entitlements that will be adopted for the Project. Appendix 5 summarizes eligibility and entitlements relevant to Moran-Kutubu ROW communities for statutory damage and deprivation compensation⁴. Damage and deprivation payments will have regard for the customary classification of landowners, landholders and land users with respect to their tenurial status and portfolio of land rights and responsibilities.

8.0 LIVELIHOOD RESTORATION PROGRAM

The Project will ensure it restores, impacted livelihoods, in accordance with IFC PS 5 and the RPF. A livelihoods restoration program will be implemented for affected families as detailed in the HGCP RAP (Section 8)⁵.

⁴ This excludes royalties paid by the government to communities along the pipeline.

⁵ Hides Gas Conditioning Plant Resettlement Action Plan, May 2010 (Revised November 2010).

9.0 GRIEVANCE MANAGEMENT FRAMEWORK

The resettlement process for the Moran-Kutubu ROW landowners will consider grievances through the Grievance Procedure, which will apply across all Project activities. The Grievance Procedure is available to people affected by displacement, other local populations residing in the Project impact area, and other stakeholders directly affected by the Project.

The Grievance Procedure to be adopted for the Moran-Kutubu ROW area is defined in the RFP. The Project will disclose information about the Grievances Procedure to the affected Tubage and Moran communities, adjoining landowners and interested persons and organizations. The transparency and fairness of the process will be explained through both verbal (via regular stakeholder meetings) and written updates (such as newsletters, website, and posters).

10.0 ORGANIZATIONAL ROLES AND RESPONSIBILITIES

The Company is responsible for overall resettlement planning, implementation, and monitoring as per the RPF. It is implemented by the Company's L&CA Team. Organizational details are described in the Komo and HGCP RAPs, Sections 9 and 10 respectively.

11.0 MONITORING AND EVALUATION

The Monitoring and Evaluation system (M&E) provides Project management, and directly affected persons, households and communities, with timely, concise, indicative information on whether compensation, resettlement and related development investments are on track and achieving Project goals. The Land and Community Affairs Team will coordinate internal and external M&E implementation. Further details of the monitoring process to be implemented can be obtained from the HGCP (Section 11) RAP.

12.0 CRP IMPLEMENTATION SCHEDULE

Table 12-1 below sets out an estimated timeframe of the tasks required in order to implement the CRP:

Table 12-1: CRP Implementation Schedule

Activity or Task	Actions	2011			2012			
		O	N	D	J	F	M	A+
Planning	Completion of CRP							
Approvals	Internal EHL approval of the CRP							
	CRP Submission to Lenders							
	CRP Summary to community							
Land Issues	Confirm resettlement sites & any impacted water sources (provision)							
Confirm and finalise compensation agreements	Verify inventories of affected land and assets (incl. special valuations)							
	Finalise any entitlement contracts							
Compensation payments	IPCA payments and cash payments to individuals							
Graves, spiritual & other cultural sites	Relocate / recover (provision)							
Verification and monitoring	Design & implementation of monitoring and evaluation system (ending October 2013)							
	Local advocacy & compensation advisors							
	Internal monitoring							
	External evaluation (including completion audit)							

13.0 COST AND BUDGET ESTIMATE

Budget provision of US\$ 0.33 million is included for forest damage and deprivation costs to clans, as well as losses associated with individual gardens and trees and other social infrastructure, should these arise.

APPENDIX 1: SUMMARY OF EXTRA WORKSPACE AREAS REQUIRED

Feature ID	Easting	Northing	Details of Extra Workspace That May be Required
05-GT-131	746348	9307052	Extra workspace 20 m wide required on both sides of the ROW construction footprint for storage of excess material, equipment and pipes, extending 70 m north of this point.
05-GT-121	750278	9301916	Extra workspace 20 m wide required on both sides of the ROW construction footprint for storage of excess material, equipment and pipes, extending 70 m north-northwest of this point.
05-GT-122	750319	9301873	Extra workspace 20 m wide required on both sides of the ROW construction footprint for storage of excess material, equipment and pipes, extending 70 m southeast of this point.
06-GT-017	739291	9312568	Extra workspace of 15 m wide is required on both sides of ROW construction footprint, extending 50 m northeast and 50 m southwest of this point.
06-GT-020	738989	9312821	Extra workspace 15 m wide on both sides of the ROW construction footprint required for road crossing. Extra workspace extends 40 m northeast and 40 m southwest of this point.
06-GT1-024	738235	9313628	Extra workspace 15 m wide on both sides of the ROW construction footprint required for road crossing. Extra workspace extends 40 m east and 40 m west of this point.
06-GT1-027	737675	9313955	Extra workspace 20 m wide on both sides of ROW construction footprint required for river crossing. Extra workspace extends 50 m east and 50 m west of this point.
07-GT-052	744458	9308634	Extra workspace 80 m x 80 m (extending 40 m west, 40 m east, and 80 m south of this point) required for storage of pipe.

APPENDIX 2: CONSOLIDATED SMLI CLAN LIST

VILLAGE	Goldman 1997	MAJOR CLAN	Clan segments	RICHARD DON'S LIST	VILLAGE	Goldman 1997	MAJOR CLAN	Clan segments	RICHARD DON'S LIST	VILLAGE	Goldman 1997	MAJOR CLAN	Clan segments
Baguale	Mende Genago	Nangu	Nagu	Yalenda		Harr	Ibira	Ibira	Kegero		Tigibi Mali	Tapuli	
Baguale	Mende Genago	Nangume		Yalenda		Harr	Ibne	Ibne	Kegero		Tigibi Mali	Pole	
Baguale	Mende Genago	Mapi	Mapia	Yalenda		Harr	Hap	Hap	Kegero		Tigibi Mali	Tepia	
Baguale	Mende Genago	Parale	Parale	Yalenda		Harr	Hiris	Dis	Kegero		Tigibi Mali	Kerolo	
Baguale	Mende Genago	Kanga		Yalenda		Harr	Yawe	Yawe	Kegero		Tigibi Mali	Kula	
											TIGIBI MALI		
Baguale	Mende Genago	Larem Noman		Yalenda	HARR	Harr	Lawi	Lawe	Kegero		Tigibi Mali	Mali	
Baguale	Mende Genago	Walaya		Yalenda		Harr	Moroa	Moroa	Kegero		Tigibi Mali	Tamani	
Baguale	Biyabe Genago	Dagime	Kenego	Yalenda		Harr	Koe	Koe					
Baguale	Biyabe Genago	Abuma Talime		Yalenda		Harr	Hege		Isup		Hum Clan	Hum	
Baguale	KENEGO	Biyabe Genago	Weme	Yalenda		Harr	Kuniap		Isup		Wio Clan	Wio	
Baguale	Biyabe Genago	Hembo		Yalenda		Menjal	Dea		Isup		Kon Clan	Kon	
Baguale	Biyabe Genago	Huguru		Yalenda		Menjal	Kubu	Kubu	Isup		Ban Clan	Ban	
Baguale	Biyabe Genago	Tandaya		Yalenda		Menjal	Hungu		Isup		Paral Clan	Paral	
Baguale	Biyabe Genago	Yagu		Yalenda	MENJAL	Menjal	Hegen	Hegen	Isup		Keya Clan	Keya	
Baguale	Biyabe Genago	Mogome		Yalenda		Menjal	Alhon	Alhon	Isup		Biri Clan	Biri	
Baguale	Biyabe Genago	Pulara		Yalenda		Pes	Pope	Pobe					
Baguale	Biyabe Genago	Godai		Yalenda	PES	Pes	Yamowini		Old MDC Camp		Tigibi Mali	Timu	
Baguale	Biyabe Genago	Wangali		Yalenda		Meap	Henepe		Old MDC Camp		Tigibi Mali	Humunali	
Baguale	Biyabe Genago	Bubulume		Yalenda		Meap	Arup		Old MDC Camp		Tigibi Mali	Kula	
Baguale	Biyabe Genago	Keba		Yalenda	MEAP	Meap	Yambili	Yambili	Old MDC Camp		Tigibi Mali	Kumi	
Baguale	Tagabila Genago	Nelego		Yalenda		Maisa	Waep	Waep	Old MDC Camp		Tigibi Mali	Tilali	
Baguale	DAGABIL	Tagabila Genago	Magabe			Maisa	Yamowini		Old MDC Camp		Tigibi Mali	Lamba	
Baguale	Tagabila Genago	Durale		Yalenda		Maisa	Pobe		Old MDC Camp		Tigibi Mali	Ajaka	
										TIGIBI MALI			
Baguale	Tagabila Genago	Dobo		Yalenda		Maisa	Mburum		Old MDC Camp		Tigibi Mali	Harabe	
Baguale	Tagabila Genago	Hebo	Dagabila	Yalenda		Maisa	Hokom		Old MDC Camp		Tigibi Mali	Ipagua	
Baguale	Tabamu	Buli	Dabamu	Yalenda		Maisa	Aol		Old MDC Camp		Tigibi Mali	Talibe	
Baguale	Tabamu	Yabiago		Yalenda		Hens	Hens		Old MDC Camp		Tigibi Mali	Hajako	
Baguale	Tabamu	Galo		Yalenda		Hapul	Hapul		Old MDC Camp		Tigibi Mali	Tombe	
Baguale	DABAMU	Tabamu	Aliwa Goli	Ali		Nopere	Nopere		Old MDC Camp		Tigibi Mali	Lawi	
Baguale	Tabamu	Habuli		Yalenda		Hopepere	Hopepere		Old MDC Camp		Tigibi Mali	Poala	
Baguale	Tabamu	Tigabo Pakalu							Old MDC Camp		Tigibi Mali	Pato	
Baguale	Tabamu	Ngtatali Koli							Old MDC Camp		Tigibi Mali	Balia	
Baguale	Emeneali	Emeneali											
Baguale	Hamaga Kilame	Hamaga Kilame											

DR WEINER'S CLAN LIST			OSLC A TUBAGE-PAUA ROAD CLAN LIST PAYMENT									
VILLAGES	CLANS	CLANS		VILLAGE	CLAN	Map 22 No Ref	CLAN	Map 22 No Ref				
WASEMI	Fo'mahu'u Orodobo	Egadobo		PAUA	Tigibi Mali	19	Tagabila					
	Kabogodobo Orodobo	Unubodobo			Hugu Me	20	Baru		23			
	Koragedobo Orodobo				Hone		Ali					
	Ba'amodobo	Baru So'onedobo			Gambolo	28						
INU	Ibuga So'onedobo	Tunuhu'u So'onedobo		TUBAGE								
	Ufuma	Waidobo										
	Ha-yadobo	Ma'ai										
	Lai Sirigi											
KAIPU	Hora Sanimahia	Atatemaiyu Sirigi		Waidobo								
	Soro	Sebere Geso										
SISIBIA #2	FASU/FOE											

APPENDIX 3: TRANSMIGRATION PATTERNS, POPULATION STATISTICS AND HISTORY OF LAND DISPUTES

1. Transmigration Patterns

Previous social mapping dating from 1997 and from surrounding license areas such as PPL194 (Nipa and Margarima) have provided a comprehensive picture of cultural settlement and change in this locale. Thus Goldman has noted:

"The major clans of the [Homa] area are Manda Peali and Webo, Paua⁶, Hugu, Gambolo, Dagabila and Baru. These give way to **Tigibi** in the east and the Fasu clans of **Kutu**. ... None of these Huli clans can claim a Tari provenance and most are either migrants from the Margarima area, e.g., Hugu, Paua, or from Kutubu such as Hale clan ...

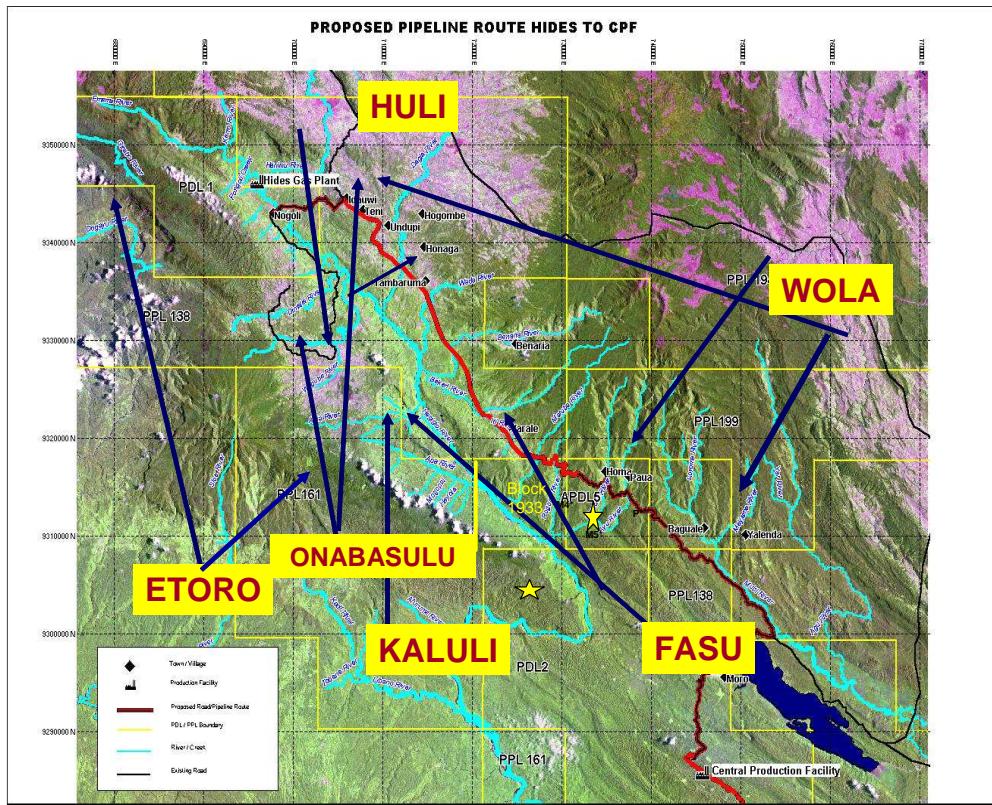
(Goldman 2001: 129)".

Three major transmigration patterns (Appendix Figure 0-1) can then be identified for this project catchment:

- a) A north-to-southwest influx of people from the lower Enga, Nipa and Margarima area into Moran and north-Kutubu areas which accounts for the provenance of resident clan groups such as Pauwa, Hunuman, Hugu, Aluma, Dagabila, Mabia, Habini, Tigua, Luguni and Gambolo. Included within this general movement were Wola people who in the late 1960–70s inhabited Yalenda (see Appendix Figure 0-2) that was previously merely a trading post between Wola and Foi.⁷

⁶ The oral history of Paua clan in Moran duplicates exactly the accounts from Paua in Margarima recorded in the PPL 194 SMLI (Goldman 2000).

⁷ Ballard (2005) has similarly noted the fact that in Homa the core pre-contact rituals were probably not performed as this was a more cosmopolitan mix of peoples.



Appendix Figure 0-1: Major Migration Flows into Moran-Kutubu Area

- b) A west-to-northeast/eastward migration of Papuan Plateau people from the Onabasulu, Etoro, Kaluli, Febi and Bedamini ethnic groups. These began to settle in the environs around Mananda-to-Komo, and indeed crossed the Tagali River to the Benaria area. Groups such as the Homani phratry which includes clans such as Tagobali, Alo, Lebe, and Tobe, and other clans like Mamali, Imini, Dabu, and Tambaruma all trace descent to non-Huli Papuan Plateau areas. In this migration flow can be counted the clans of Bebe, More and Pate who occupied the western-most extremities of Huli around Pubua and the Baia River.
- c) A southeast-to-northwest movement of Lake Kutubu people along the northern banks of the Hegegio/Tagari and into the Moran-Yarale-Benaria area spawning the large clans Hale, Tiya, Dama, Bagale and Dambalua. In effect, migration of northern Fasu groups had occurred well before the present era of resource development.



Appendix Figure 0-2: Moran Settlement Digital Elevation Map

2. Population Statistics

Limited current census data is available for the Moran-Kutubu ROW section. Appendix Table 0-1 provides the relevant Province-District-Local Level Government population data from 2000. The area lies within the Lake Kutubu Rural Local Level Government area, and Komo-Margarima District Hulia LLG:

Appendix Table 0-1: SHP Project Related Provincial Demographics

SOUTHERN HIGHLANDS PROVINCE 2000							
Total	Male	Female	HHs	LLGs	CU	Wards	Districts
546,265	278331	267,934	96,461	30	2749	677	8
Komo-Margarima District							
64,162	32,628	31,534	11,580	3	287	85	
Nipa-Kutubu District							
98,505	49,855	48,650	15,877	5	625	113	
Hulia Rural LLG							
15,125	7493	7632	3076		72	29	
Lake Kutubu Rural LLG							
10,885	5450	5435	1768		61	16	

Appendix Table 0-2 provides demographic information on the landowner communities most impacted by the proposed project intervention. Baguale, the closest settlement to the ROW⁸ had a population of only 37 households:

Appendix Table 0-2: ROW households (HHs), population (pop.) and survey status

⁸ Homa and Paua are further detailed in the KP 50-65.5 RAP.

Census Units	No. of Hhs 2000	POP. 2000 Gov Census	Households surveyed—SIA 1998–2007						2007/2008		
			1998	2001	2004	2005					
Target Area											
Baguale	-	-	280	201	37		-	-	18	19	
Tubage	-	-	140	132	22		-	6	-	10	19
Homa	175	30	303	206	37		16	-		17	17
Paua	174	39	303	294	54		20	-		15	19

3. History of Land Disputes in Moran ROW Area

The area from Moran to Kutubu has been variously subject to dispute since 1996 at the inception of the Moran petroleum project. These disputes are both about ownership of land itself, and about the relative status of resident clan segments in relation to their tenurial classification as *tene* (agnate) or *yamuwini* (non-agnatic cognate). This dynamic enmeshed the Moran and NW Moran oil projects in:

- a) Years of painstaking land demarcation which still left much of the land contested (see Appendix 3),
- b) Continuing rounds of claim and counter-claim in the lands courts about ownership of land, and
- c) Embroiled the registration of Incorporated Lands Groups (ILGs) also for years as they doubled and trebled in number over a period of 5 years.

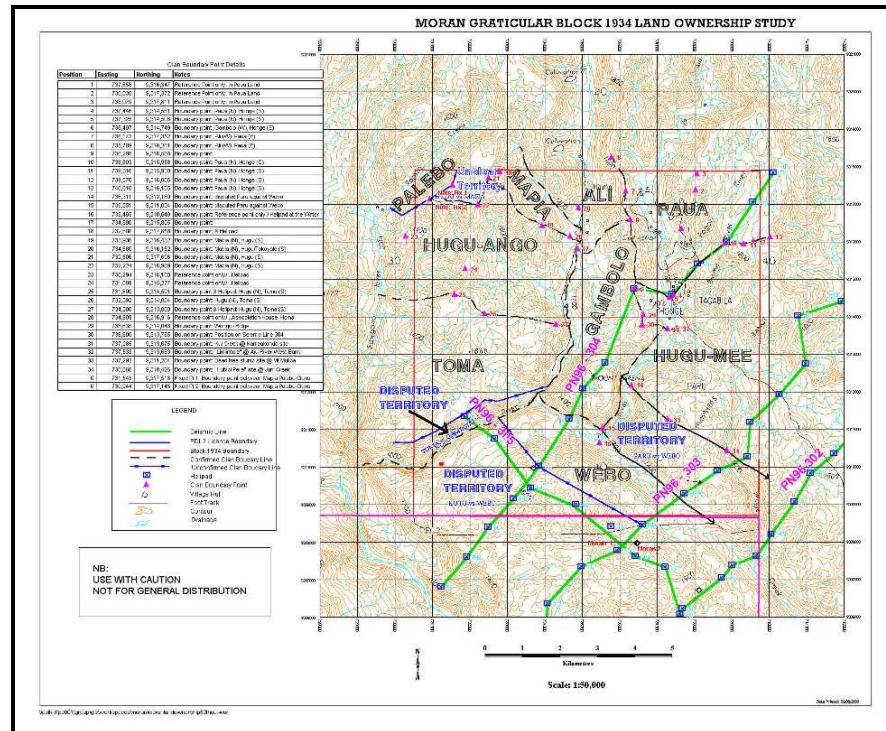
The problem in this area is essentially that *yamuwini* have wanted to assert their primary landholding status in the license area so as to control their own distribution of benefits, rather than given an amount at the largesse of *tene* clans. In these scenarios oral history is used and manipulated to show longevity of residence and tenure so as to seek parity with major agnatic lines such as Hugu and Webo. This scenario arises particularly where (a) a stock clan system of incorporated lands groups is used amongst the Huli; and (b) where the resource developer engages in boundary determination as was the case in Moran. Unlike PDL2 where ILGs shared royalty and equity benefits according to the number of ILGs in the PDL, in Moran the distribution calculus was based only on the size of land held as a percentage of the total PDL. In effect, this principle was inevitably going to provoke clans to squabble about the size of their holding and the primary-secondary nature of their tenurial status.

For example, Baru clan have long disputed the version of Hugu that Baru was given land by them for which Baru paid in shell and pig. Baru have asserted their residence in Moran for at least 10 generations whereas Hugu claim they came from Pimaga. In this version, Baru would have been resident on the land for only 5 generations.

The political reconfiguration of tribal territories as a result of the imposition of oil and gas tenements thus has had a pronounced effect on territorial relations between and within ethnic groups and on social life between villages. What makes our understanding of the social landscape problematic is that Moran Huli never practices many of the Huli traditional rituals and as such the types and ownership of sacred sites is indeed very different in this

locale. The sacred geography does not provide an evidential map of clan and sub-clan tenements.

Appendix Figure 0-3 provides the result of 2.5 years of CA lands' work in the one graticular block of PDL5. Approximately 20% of the land mass remains contested.



Appendix Figure 0-3: Moran Land Identification Mapping (CNGL 1998)

Equally, the history of relationships between Foi and Fasu has clouded the land ownership issues in and around Tubage. There are both Fasu and Foi clans located in Wasemi and the ROW. Fasu claim their clans gave land to Ufuma. Ufuma clan was the landowner of the area between the Homa-Moro road junction and Bangure and the SMLI reports suggest they own the land in a position of primes inter pares with the other Tubage clans (Goldman & Weiner 2009). Ufuma is the name of a Fasu clan based at Hidinihia, but the Tubage Ufuma deny that they are of Fasu origin or that they have any connection to Hidinihia Ufuma clan. The other clans of Tubage that own land inside the Tubage Corner buffer zone are Wedobo (also spelled Waidobo), Ha-yadobo, Ba'amodobo, Orodobo and Ma'ai. These clans claim their land extends as far west as Kaimari Creek. However, other Wasemi clansmen whose land is around Kaimari claim that the border between the Wasemi and Tubage clans is Tugibu Creek (the second bridge crossed after leaving Kaimari crossing).

The major dispute in this resettlement area is between the Foe and Huli in regard to the amount of land claimed by the Huli Tigibi clan. The Tigibi clan say their land extends southward all the way to the Kutubu Access Road-Homa Road junction (this place is commonly referred to as "Three Corner", because the turn-off to Tubage Village is also at this junction). The Tubage people strongly dispute this. They consider Kegero a Tubage place and consider that the border between the Foe and Huli lies a few kilometers north of Kegero Village at a place called Bangure.⁹

⁹ The Tubage and Tigibi clans took their dispute to the District Land Court in Mendi. The Tubage men deposed Tigibi and Gambolo were from the Margarima area and that they migrated to Homa.

In summary, the area has witnessed a number of contested land disputes which may continue but are unlikely to directly impact construction progress. Where they surface, compensations will simply be placed in escrow until the disputes are resolved.

APPENDIX 4: SUMMARY OF ISSUES RAISED BY COMMUNITIES

The table below summarizes the main issues raised by communities during the disclosure process:

Question/Issue	Answer	Subject Category	Follow-up Required	Recommended Action
The benefits will be received by the people who have improvements on the pipeline right of way. However when there is an emergency how is the project going to handle the situation? I ask this because all people will be affected - that is those that have or are receiving Resettlement assistance packages and those that are not.	The company will have operational stations along the length of the pipeline that will shut down flow of gas (Methane) in the event that there is an emergency or disaster. Further, the gas is not harmful when in its natural state.	Environmental	More road-shows to explain technical aspects of project	Stakeholder Engagement
We hear of desert occurring in other countries of the world where there has been similar <u>pipeline</u> projects happening and so they are wondering if this situation does happen, where are they going to live, do their gardening and hunting etc.?	The project wants to minimise impact on the environment. Gave example that the pipeline will be laid some meters below the surface of the earth and that once the pipes have been laid it will be covered with earth again thus encouraging natural vegetation regrowth. However the people will not be allowed to build any permanent structures etc. on the pipeline corridor.	Environmental	More road-shows to explain technical aspects of project	Stakeholder Engagement
For how long will the people be restricted from doing hunting and or having access to their land?	Accessibility will be restricted when the actual construction work starts in that particular location. Can have access to land when construction stops and vegetation regrowth takes place.	Land Access	RIT and ELC to assist understanding of project construction Contractor to undertake more roadshows	Contractor and RIT
The people now know that the gas pipeline will be on their land for some time. And they also know that in that place that they do a lot of hunting and collecting wild ferns and berries etc. for food. Customarily it's illegal for one village and or clan to trespass on another clan or tribe areas for hunting as this can start nasty confrontations etc. How will the project assist when they are unable to find anymore wild flora or fauna for food? The people cannot live on Kaukau (sweet potato) as their only source of food.	The people will receive compensation from L&CA for damages to their environment and how their way of life and dependency on the forest has been affected. Furthermore resettlement has a Livelihoods Restoration program which will come and work with the community in relation to food security and management.	Livelihoods	Livelihood Restoration team to work in area	RIT to ensure more disclosure given
What is the project going to	This is something outside the	Employment	Business	RIT to advise

Question/Issue	Answer	Subject Category	Follow-up Required	Recommended Action
do for the people who have given their names in to be employed by the project in various capacities such as drivers etc. It has been some time now and they have not received any responses. Yet we see people from other parts of SHP as well as the country coming and getting employment and we the landowners are still waiting. What is the project going to do about this?	scope of the Resettlement work however this question will be captured in the Disclosure Report for management to see. There is a business development advisor who will assist people with advice.		development advisor	contractor.
I have five houses and will all these five houses be compensated for?	RIT will assess the impact of the construction on these houses and then negotiate a compensation package with the owners and family.	Compensation	RIT to assess	RIT to assess.

APPENDIX 5: ELIGIBILITY AND ENTITLEMENTS

The table below summarizes eligibility and entitlements for the Moran-Kutubu Landowners:

Eligibility	Affected Category	Assistance / Compensation	Considerations for Implementation
Land Deprivation			
Recognized landowners	Clans or other groups (e.g., ILOs) with rightful recognized claim to communal land	<p>Payment will be made to clans within the final ROW at FRV.</p> <p>Payment for land deprivation as per guidelines set out in the IPCAs and summarised below:</p>	<p>Clearly inform affected group authorities about site development and land allocation schedules and regulations.</p> <p>Compensation paid at agreed intervals directly and publicly to landowner</p>
		1. Compensation for the use and enjoyment of the surface of the land (74 ha)	<ul style="list-style-type: none"> The Company will pay Landowners at a rate per year at equivalent market rates for each hectare of land occupied (but not otherwise damaged) by the Company for depriving Landowner(s) of the use of the surface of the land, for cutting Landowner(s) off from other parts of their land, and for any loss or restriction of rights of way, in compliance with Section 118(2).
		2. Compensation for land surface damage (67 ha)	<ul style="list-style-type: none"> If the surface of any land of the Landowner(s) is damaged by the Company, the Company will make a one-off compensation payment at equivalent market rates to the Landowner(s) for each hectare of the land surface which is damaged by the Company.
		3. Compensation for initial damage to naturally occurring bush, vegetation, birds, animals or fish (74 ha)	The Company will make a single payment to the Landowner(s) for any damage on their land to the natural bush, birds, and fish at equivalent market rates for each hectare of land on which the Company damages the natural bush.
	Individual/household landowners for garden land	Payment for land deprivation as per above (if land privately owned).	<p>Clearly inform about site development.</p> <p>Compensation paid at agreed intervals directly and publicly to landowner</p>

Eligibility	Affected Category	Assistance / Compensation	Considerations for Implementation
2. Damage to Trees and Crops			
Recognized land and resource users and owners	Clans or other groups (e.g., ILOs) with rightful recognized claim to communal land	Cash compensation based FRV for trees naturally seeded in affected area as identified in the IPA, as included above for Land Deprivation	Clearly inform community about site development. One-off compensation to community (landowners group) directly and publicly to landowner
	Individual/household landowners for garden land	Cash or in-kind compensation FRV for affected area for crops and trees planted by individuals (excluding mature crops) Compensation for garden infrastructure improvements (including garden fences and trenches). Assistance to restore livelihoods through economic restoration programs	Clearly inform community about site development. Cash compensation at FRV. Once-off compensation or at agreed intervals to individual/household owners directly and publicly.
3. Reduced access to Land and Resources			
Persons recognized as landowners of land to which access is reduced	Individual/household landowners and land users with reduced access to land due to Project activities	Cash or in-kind compensation at agreed intervals until reduction in access ceases	Clearly inform about site development. Cash compensation at FRV “Lost production” compensation will be considered for compensation. This means that if there is interrupted access to land during construction for a short time then affected people will be eligible for compensation for lost production – i.e. what they could have grown or done with the land had they had access One-off payment or compensation at agreed intervals to individual/household owner directly. This will be done publicly

APPENDIX 6: SOCIAL SITES WITHIN ROW

The table below lists relevant sites within the construction footprint:

KP 65.5 – 80.0 (Moran-Kutubu) Social Sites

ID	KP	Social Site	Comment
07-SO-084;06-SO-053;	66;68	Stream 'Ajupale' used for drinking (during hunting), and source of stones used to sharpen tools	Will be partially impacted; other sources of drinking water are available in area, and stones can still be collected down stream
07-SO-085	73	Doline pool some 10m in diameter. Used traditionally as a healing site	Realignment of pipeline route effected to avoid impact.
06-WS-002	68-72	Yuni creek – 7m wide and 1m deep, fast flowing	Crossing will be minimised.
05-SO-082	69	A large garden of about 1.5 ha of which no more than 10% will be directly impacted.	FRV compensation to be paid
06-SO-039	67	Active garden of 0.3 ha and existing crops like sugarcane, banana, sweet potato, corn etc.	Small portion may be lost; FRV to be given as compensation
06-SO-043	66	Active garden of approximately 900m ² and existing crops like sugarcane, banana, sweet potato, corn etc.	FRV to be given as compensation
06-SO-046	66	Active garden of approximately 900m ² and existing crops like sugarcane, banana, sweet potato, corn etc.	FRV to be given as compensation
06-SO-047	66	Active garden of approximately 900m ² and existing crops like sugarcane, banana, sweet potato, corn etc.	FRV to be given as compensation
06-SO-048	66	Active garden of approximately 900m ² and existing crops like sugarcane, banana, sweet potato, corn etc.	FRV to be given as compensation
06-SO-052	66	Active garden of approximately 900m ² and existing crops like sugarcane, banana, sweet potato, corn etc.	FRV to be given as compensation
05-SO-077,079,080,06-SO-031&32&33&35, 06-SO-040,06-SO-044	66-72	Small creeks said to be used for drinking only whilst hunting	In construction area and likely to be impacted only during construction
06-SO-030	68	Small creek used only when hunting	On Dagobila and Baru clan land who have numerous other creeks to rely on when hunting
05-SO-081;05-SO-79B	71;72;	Clan boundaries	Only partial boundary impact; boundary is disputed so may be a catalyst for dispute
07-SO-082	72	Access road	Temporarily impacted during construction. Alternative access maintained

ID	KP	Social Site	Comment
06-SO-037;06-SO-042	67;66	Walking and access tracks will be temporarily subject to safety and traffic control measures.	After construction it will be free of all impediments.
O6-SO-034;06-SO-038,06-SO-049	68;67;66	Fallow gardens each side of ROW with banana, marita; sugarcane etc.	Will be lost and FRV compensation paid to owner
06-SO-041	66	Naro quarry of 900m ² previously used for Homa road construction but since abandoned.	Will be totally lost and asset compensation to be given in lieu (if gravel remaining)