PNG LNG Quarterly Environmental and Social Report

Fourth Quarter 2010

PNG LNG

Energy for the World. Opportunity for Papua New Guinea.

PNG LNG

About This Report

Papua New Guinea Liquefied Natural Gas Quarterly Environmental and Social Report – Fourth Quarter 2010, provides updated reporting on the Project's construction, safety, health, environment and social management activities.

This Report demonstrates the progress made each quarter and is a commitment by the Project to ensure the citizens of Papua New Guinea, interested non-government organizations and other stakeholders are kept well informed.

This Report is published on the Project website, www.pnglng.com. Printed copies are also available.

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NOTE: While this Report uses US English, document titles, institutions and legislation use exact titles, which may include variations of English, depending on the country of origin.

Exxon Mobil Corporation has numerous affiliates, with many names that include ExxonMobil, Exxon, Mobil, and Esso. For convenience and simplicity, those terms and terms such as Corporation, Company, our, we, and its, are sometimes used as abbreviated references to specific affiliates or affiliate groups.

For the purposes of this Report, the currency conversion rate used, between Papua New Guinea Kina (Kina) and United States Dollars (US$) is 0.3785 [1 Kina = US$0.3785]. This rate is as published by the Bank of Papua New Guinea at December 31, 2010.

One Project, One Team, Focused on the Fundamentals

Wanpela Projek, Wanpela Tim, Lukluk Long As Tingting Bilong Projek

"Much has been achieved since the Project was sanctioned in December, 2009, but in the context of the Project's scope and scale, we are only getting started. By working together as one team, putting our learnings into practice quickly and standardizing our processes we will maintain strong stakeholder relationships and meet the Project's objectives."

Decie Autin, Project Executive, Esso Highlands Limited

This is the fourth Papua New Guinea Liquefied Natural Gas (PNG LNG) Project (Project) Quarterly Environmental and Social Report demonstrating how Esso Highlands Limited, as the operator of the Project, is delivering on its commitments in the areas of construction, safety, health, environment and social management.

Esso Highlands Limited, a subsidiary of Exxon Mobil Corporation, is constructing and will operate the Project on behalf of the co-venturers – subsidiaries of Oil Search Limited, National Petroleum Company PNG Limited, Santos Limited, JX Nippon Oil and Gas Exploration Corporation, Mineral Resources Development Company Limited and Eda Oil Limited.

The Project has developed a detailed Environmental and Social Management Plan, supported by a family of component plans, which are published on the Project's website (www.pnglng.com/commitment) and articulates the Project's commitments and approach to environmental and social management. Working with contractors to finalize their management plans and reporting protocols has been a major achievement for the year.

In addition, the Project has a Safety Management Plan, a Health Management Plan, a Regulatory Compliance Plan and a Security Management Plan. Collectively, these documents demonstrate the priority placed on promoting sustainable economic growth in Papua New Guinea and reflect the global experience of ExxonMobil. These plans provide invaluable resources for creating a best practice culture across the Project as construction work progresses.

This report signifies the end of the Project's first full year of a four-year construction period, and an opportunity to reflect on what has been achieved so far.

Pre-Construction Activities

Securing external funding represented a vote of confidence in the Project and in the ability of Esso Highlands Limited to deliver on commitments, working with its co-venturers. It has required the Project to set a high benchmark for public environmental and social reporting including ongoing disclosure, monitoring and reporting for the Investor/Lender Group and the many stakeholders within Papua New Guinea and internationally.

Papua New Guinea is one of the least explored countries on earth largely due to its rugged, mountainous terrain and dense vegetation. Many of the areas in which the Project's personnel are working remain largely unexplored, even by the indigenous people who have lived in the immediate area all their lives. This environment, as well as the complexity, scale and scope, make it one of the most challenging projects ever undertaken in this industry.

The Project continues to conduct pre-construction surveys to confirm the placement of the pipeline construction corridor and the associated Project footprint. These surveys identify potential impacts of construction activities on community infrastructure as well as environmental and/or social sensitivities. The resulting constraints maps, including advice, mitigation options and recommendations to reduce impacts to communities and the environment, are supporting decision-making across all Project locations. This quarter, the main pre-construction survey effort concentrated on the onshore pipeline with approximately 58 percent of the 292 kilometer (181 mile) main pipeline route surveyed. A major milestone was achieved when the Upstream Infrastructure contractor completed planned pre-construction surveys for all of its worksites, issued its reports to Papua New Guinea's Department of Environment and Conservation and received permission to access all of its worksites.

Construction

The Project moved into full execution in March, 2010, commencing with early works activities. Clearing work at more than ten sites, scattered over a distance of 300 kilometers (186 miles), creating appropriate road access and linking the required infrastructure has been an enormous task. For example, the contractor at the Komo Airfield had registered in excess of one million work hours by the end of this quarter all without a Lost Time Incident. Efforts also continued on improving and upgrading infrastructure, including road and bridge works, and the installation of construction camps.

Bulk earthworks at the Hides Gas Conditioning Plant continue

This early work provided a foundation for scaling up construction activity late in the year as the Onshore Pipeline contractor and the LNG Plant and Marine Facilities contractor and subcontractors mobilized. A milestone during this quarter was the commencement of rig construction activities, following the finalization of detailed drilling and completion designs.

Table 1 provides an overview of construction highlights for this quarter.

Table 1 – Contracts and main construction activities

Contract	Contractor	Major Activities During the Fourth Quarter 2010
Upstream Infrastructure (C1)	Clough Curtain Brothers Joint Venture	Mubi River ferry works were completed and the ferry became operational. Kutubu Central Processing Facility Bypass Road work was completed and the Ridge Bypass Road work was nearing completion.
	Telecommunications (EPC1) – TransTel Engineering	Construction began at the first of six mountain top communication sites. Completed installation of satellite communications at one additional construction camp.
LNG Plant Early Works (C2)	Curtain Brothers Papua New Guinea Limited	Upgrade of the Papa Lea Lea Road.

Contract	Contractor	Major Activities During the Fourth Quarter 2010
Offshore Pipeline (EPC2)	Saipem	Completed offshore line pipe weld mechanical testing.
LNG Plant and Marine Facilities (EPC3)	Chiyoda and JGC Corporation	Clearing vegetation areas in preparation for the jetty test piles and for the temporary seawater intake pipeline. Installing the temporary concrete batch plant.
Hides Gas Production Facilities and Hides Wellpads (EPC4)	CBI Clough Joint Venture	Bulk earthworks progressed. Installation of the boundary fence along with foundations for camp accommodation.
Onshore Pipeline (EPC5A)	SpieCapag	First deliveries of line pipe arrived at Kopi Shore Base. Stringing of line pipe commenced along the Right of Way.
Komo Airfield (EPC5B)	McConnell Dowell and Consolidated Contractor Group Offshore	Bulk earthworks were completed in the terminal area. The 173-bed Pioneer Camp was completed, along with installation of foundations, accommodation units and the kitchen in the main camp.
Oil Search Limited Associated Gas Development	Aker Solutions	Fabrication of the replacement offloading buoy commenced. Preparatory civil works commenced at the Kutubu Central Processing Facility.
Drilling (new wells and workovers)	Nabors Drilling International Limited	Rig construction activities commenced.
Port Moresby Construction Training Facility	Eos	Officially opened and began operating.

Safety, Health and Security

Sustaining long-term relationships within the communities in which the Project works is central to the Security Strategy. Project personnel work with communities, co-venturers, Project contractors, and service providers to build relationships through dialogue and a common understanding of issues. The Royal Papua New Guinea Constabulary performs their duties to maintain law and order in the Project areas.

There are risks associated with any project involving multiple worksites and heavy machinery. The Safety Vision for the Project is *Nobody Gets Hurt*. This is pursued through improved hazard identification, better understanding of risks specific to working in Papua New Guinea and the effective communication of risks and hazards. Safety workshops, health training and education programs have been a key focus throughout the year and continued to be well attended and supported by contractor teams in the fourth quarter.

Distributing T-shirts to commemorate World AIDS Day

The Project reviewed and strengthened its Malaria Control Program during this quarter following three serious malaria cases involving Project workers in the second half of 2010. Another important safety initiative was the development of the Project Glove Guideline intended to prevent hand and finger injuries on worksites. This followed the successful launch of the 'Gutpela Lek' (Good Feet) training toolkits that were rolled out across Project worksites earlier this year as well as a worker awareness and monitoring campaign, which was developed in response to a cholera outbreak in Papua New Guinea.

Environmental Performance

The Project's Environmental Impact Statement is the most comprehensive ever undertaken in Papua New Guinea. In particular, the Project takes care to manage natural resources such as water, timber, quarry materials and soils in recognition of their ongoing environmental, social, economic and cultural value. For example, hydrocarbon spill prevention and reporting has been a specific focus throughout the year for the Project and its contractors. Presentations, toolbox talks and the circulation of Safety, Health and Environment alerts that stress the importance of preventing, minimizing, responding to and reporting spills have taken place at all sites. This was followed up with site leads continuing to highlight the importance of vigilance on spill prevention. The success of these initiatives is evident in recent hydrocarbon spill metrics and trend analysis which shows an overall decrease in spill volume and numbers per 200,000 work hours over the year of 2010.

Preserving Papua New Guinea's biodiversity is a high priority for the Project with numerous initiatives and management measures in place to ensure that biodiversity issues are adequately addressed. The Project's Biodiversity Strategy was finalized and publicly disclosed this quarter, in preparation for an extensive consultation process.

Biodiversity of Papua New Guinea – Terrestrial crab Cardisoma hirtipes, Dendrobium chrysopterum, Camacinia gigantea

The Project has a wide-ranging environmental monitoring program, which includes sampling freshwater streams, creeks and rivers around the various Project work areas for macro-invertebrates. This type of monitoring, which commenced in this quarter, can help identify any Project impacts as well as contribute to a better understanding of Papua New Guinea's stream ecology.

Managing weeds, pests and plant pathogens and ensuring that areas are restored to a natural state, is an essential component of protecting Papua New Guinea's rich biodiversity. The Project's pre-construction surveys showed some surprising results for weed management. For example, the assumption that all worksites were 'pristine' was not entirely correct. This has meant that the Project's planned focus on preventing weeds from being introduced into an area has changed to managing the spread of weeds and any increase in weed activity.

During this quarter, the Project's contractors continued engaging with Papua New Guinea's National Agriculture Quarantine and Inspection Authority, arranging Port of Origin visits to oversee the loading of coated pipe onto vessels in Indonesia. These visits provide an opportunity for the National Agriculture Quarantine and Inspection Authority to confirm that the integrity of the goods and any associated packaging has not been compromised en route from the manufacturer's premises.

Social Development

The Project is promoting economic growth and creating positive, sustainable impacts in the Project Impact Area in areas such as health, education, agriculture, local economic development, women's economic empowerment, and capacity building of individuals and community institutions through a number of strategic community investments.

In the fourth quarter, a pilot children's book was developed, printed and distributed in the Project Impact Area about the adventures of a boy called 'Toea'. The concept will be extended into a first series of six books on Papua New Guinea and its culture. It will be followed by a second series of five books on Project community interface topics, such as road safety and health.

Distributing 'Toea' books in Port Moresby

At the University of Papua New Guinea's School of Medical Sciences, the Project is investing in the design and construction of an Infectious Diseases Diagnostic and Research Laboratory.

In addition, the Project's 'Partnership for Health' agreement with the Papua New Guinea Institute of Medical Research will benefit people who live and work near the Project as well as other parts of Papua New Guinea. An early outcome is a 478,000 Kina (US$180,900) research program sponsored by the Project to identify the most effective vaccine against pneumonia in Papua New Guinea.

In collaboration with the Papua New Guinea Institute of Medical Research and University of Papua New Guinea, the Project has also fully funded a Health Sciences Scholarship and Fellowship Fund that assists 17 students annually with internships as part of their Honors and Masters studies.

During this quarter, 131,600 Kina (US$49,800) was provided to Radio FM100 for the purchase and installation of a 300-watt radio transmitter at Mendi. As well as providing a service to surrounding communities, this will be a valuable tool for broadcasting information about Project activities, advising communities of upcoming meetings and promoting employment and business opportunities.

Support programs that help empower women to drive positive economic change in their communities have been another focus throughout the last 12 months. During the fourth quarter, the Project nominated six Papua New Guinean women with leadership roles in non-profit organizations and women's associations to attend a month-long training program in Jakarta, Indonesia, focused on entrepreneurial and leadership skill development. The Enterprise Centre is also playing a key role in mentoring and supporting women who wish to form companies.

Business leader Antoinette Corbin-Taylor, wife of the US Ambassador to Papua New Guinea (in blue) giving an inspirational talk to the Directors of the all-women Landowner Company, Porebada Ahine Limited

Large construction projects can directly lead to an influx of in-migration, of people from both outside and within the Project Impact Area, who perceive that there will be economic and employment opportunities and access to improved community services or family security. The Project conducted a Project Induced In-Migration Survey to improve its understanding of potential migration pathways and migration points as well as key environmental, social and spatial impacts. The Study identified risks of adverse effects, caused by Project Induced In-Migration, at five location-based clusters. A draft Project Induced In-Migration Mitigation and Monitoring Plan has been developed, which includes in-migration strategies and influx management and mitigation measures. This Plan is undergoing a consultative review.

Developing Papua New Guinean Businesses

The Enterprise Centre, an independent institution located within the premises of the Papua New Guinea Institute of Banking and Business Management in Port Moresby, is delivering against the Project's National Content Plan objectives. The Centre spent more than 2.7 million Kina (US$1.02 million) during 2010. For the full year, the Centre provided over 1,100 work days of training to the Papua New Guinean business community.

The PNG Supplier Database recorded more than 13,000 page logins during the year, including just over 1,000 registered expressions of interest from Papua New Guinean businesses. Meanwhile, work has commenced on a new, permanent building for the Enterprise Centre, which is expected to be completed in 2011.

Purchasing local goods and services transfers knowledge and skills and increases local suppliers' capability to meet global standards. During this quarter, 628 million Kina (US$238 million) was committed to Papua New Guinean goods and services. Throughout the year, more than 1.5 billion Kina (US$567 million) was spent.

More than
1.5 billion Kina
spent with local companies in 2010

Workforce Development

4,500 Papua New Guinean citizens employed representing 80% of total construction workforce

More than 4,500 Papua New Guinean citizens were employed on Project activities at the end of December, representing 80 percent of the Project's total construction workforce. More than 4,000 of these workers were sourced through 14 Landowner Companies and engaged in Project activities such as construction labor, catering and camp management, security and transport.

In addition, Papua New Guinean citizens have been employed in a variety of administration, procurement, logistics, ground transport and security roles, primarily located in Port Moresby.

By the end of 2011, the total number of workers engaged on the Project is expected to triple. In anticipation, the Project is addressing a shortage in qualified construction workers in Papua New Guinea and maximizing long-term employment opportunities for Papua New Guinean citizens, by providing training facilities at several in-country locations.

A highlight of 2010 was the official opening of the Port Moresby Construction Training Facility, which will train up to 1,000 Papua New Guinean workers per year during the Project's construction phase. It represents a 150 million Kina (US$57 million) investment by the Project, and will be handed over to the Papua New Guinean Government to become a permanent and integral part of the Port Moresby Technical College once the workforce training programs conclude.

Port Moresby Construction Training Facility official opening

Meanwhile, the Production Operations Training Centre in Port Moresby, which opened in September, 2010, is training a class of 75 men and women who will be engaged in plant operation and maintenance roles. In early 2011, this group will complete their Foundation Skills Training and move on to Basic Oil and Gas Training. The course will conclude with 12 months of Advanced Skills Training overseas. This will enable the graduates to return to Papua New Guinea to work on the newly constructed facilities.

Graduate Update

Name: Paul M Koli
Member of the Graduate Training Development Program

After an initial period in Brisbane, Australia working with the Hides Project team, Paul returned to Papua New Guinea in October, transferring to the Esso Highlands Limited Business team. He has been assigned to work with the Project Socioeconomic team in a variety of roles relating to cost control, reporting and management.

Stakeholder and Community Engagement

To ensure its success, the Project recognizes that it must establish and maintain positive community relations through effective communication, consultation and relationship building across the Project Impact Area. Both the Project and its contractor companies are responsible for engaging and collaborating with communities. Dialogue with communities is underway almost every day in every part of the Project Impact Area. During 2010, over 160 formal stakeholder engagement meetings were attended by more than 17,300 registered participants and a total of 5,371 comments were received.

Over 160 formal stakeholder meetings with >17,300 registered participants during 2010

The Project is highly responsive to community issues and has received positive feedback from communities about issue resolution. During this quarter, 122 issues were recorded from 21 communities in the Project Impact Area. Most issues covered social, economic and community affairs. A total of 43 grievances were also recorded, mostly relating to compensation, and business opportunities and strategic community investments. In the fourth quarter, 19 grievances were closed with a 100 percent satisfaction rating for the process used.

Meanwhile, the Government Interface team has worked hard this year establishing effective working relationships with the Papua New Guinean Government and achieving outcomes that support the Project's schedule. For example, procedural changes made by the Government are enabling the Project to more readily mobilize labor requirements and meet schedule commitments. Restricted Entry Visas, Red Job Exemptions, Hub Processing Centers and Institute of Engineers Papua New Guinea registration changes were introduced during this quarter.

In addition to mobilizing workers into Papua New Guinea, successful construction activities rely on the efficient mobilization of materials and equipment into the areas where they are required. The Project is working with Government agencies to facilitate this. Toward the end of 2010, discussions were underway with the National Airports Corporation and Papua New Guinea-based airline operators to develop strategies aimed at efficiently moving Engineering, Procurement and Construction contract laborers during the peak period of construction.

Another priority for 2010 has been ensuring that the Project has a well-defined, transparent land access process in place, including a clear system of compensation payments for Papua New Guinean citizens affected by resettlement.

The Project is committed to minimizing the need for population resettlements as a result of Project activities, and to conducting necessary resettlement activities in accordance with international best practice, as defined by the International Finance Corporation social safeguard policies and the laws of Papua New Guinea. The Project's approach to resettlement is to give physically and economically displaced people the opportunity to, at a minimum, restore their livelihoods and standards of living.

This quarter included a visit by the Lender Group's Independent Environmental and Social Consultant. This presented the Project with an opportunity to discuss progress as well as constraints and to identify methods to address issues that could impact on compliance with Lender Group requirements.

Highlights for the fourth quarter have included the finalization of Resettlement Action Plans for the Komo Access Road, Kopeanda and the Heavy Haul Road. Also by the end of the fourth quarter, all outstanding compensation had been paid to relocated residents at Komo Airfield, all houses had been dismantled and rations deliveries to Komo households had been completed.

Introduction and propagation of new sweet potato Ipomoea batatas varieties, including virus free planting material

Since the Project started, 73 In-Principle Compensation Agreements have been signed by landowner representatives and Project management in relation to damage to food gardens and economic crops, man-made structures (such as fences, drains and dwellings), naturally occurring bush, vegetation, birds, animals or fish, or negative effects on the quality of water resources.

Preparation is underway for compensation payments with regard to land required for the various Project facilities and infrastructure. These payments are scheduled to take place in early 2011. They will consist of one-off payments for initial and surface land damage, as well as one or more installments of yearly deprivation payments.

One Project, One Team, Focused on the Fundamentals

Looking ahead to 2011, the Project's vision is *Wanpela Projek, Wanpela Tim, Lukluk Long As Tingting Bilong Projek*. The fundamentals always referred to are; safety, security, health, environment and controls. As the Project's workforce and contractor numbers increase, it will aim to work together as one integrated team to ensure the best outcomes for the Project, the people of Papua New Guinea and the many other stakeholders.

1.0 INTRODUCTION

This fourth Papua New Guinea Liquefied Natural Gas (PNG LNG) Quarterly Environmental and Social Report is part of a series of reports that provide quarterly updates on the construction activities and safety, health, environment and social management aspects of the PNG LNG Project (Project).

The publication of this information demonstrates the Project's commitment to transparency by making it possible for the citizens of Papua New Guinea, interested non-government organizations and other stakeholders to remain well informed about the Project as it progresses.

This Report is available on the Project's website, www.pnglng.com. Printed reports and translated summaries are distributed, where applicable, to stakeholders in order to make information available to the citizens of Papua New Guinea where internet access may be limited.

The Project is an integrated development that includes gas production and processing facilities in the Southern Highlands and Western Provinces of Papua New Guinea. It incorporates liquefaction and storage facilities (located northwest of Port Moresby on the Gulf of Papua) with a capacity of 6.6 million tons per year. There are over 700 kilometers (435 miles) of pipelines connecting the facilities. The investment for the initial phase of the Project, excluding shipping costs, is estimated at US$15 billion. Over the life of the Project, it is expected that over nine trillion cubic feet of gas will be produced and sold. The Project will provide a long-term supply of Liquefied Natural Gas (LNG) to four major LNG customers in the Asia region including: Chinese Petroleum Corporation, Taiwan; Osaka Gas Company Limited; The Tokyo Electric Power Company Inc.; and Unipec Asia Company Limited, a subsidiary of China Petroleum and Chemical Corporation (Sinopec).

The Project will progress in a series of development phases with the first LNG deliveries scheduled to begin in 2014. The location and elements of the Project are illustrated in Figure 1.1. *Appendix 1* details how the contracts for Phase I of the Project have been divided.

Plate 1.1 – Onshore pipeline component

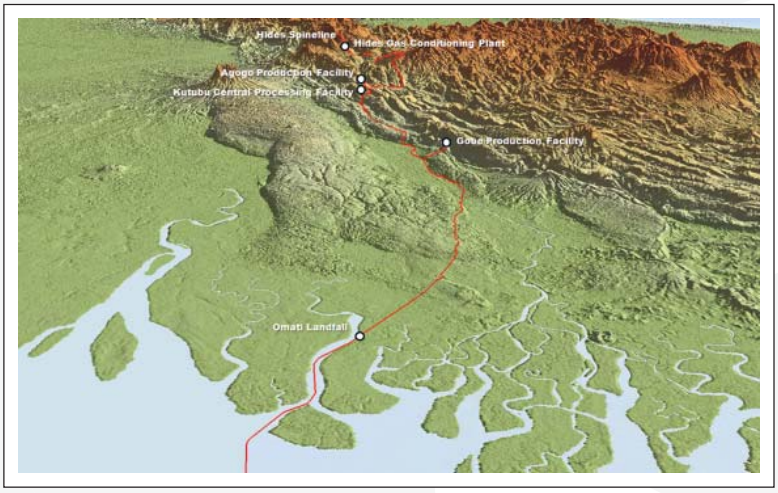


Plate 1.2 – Offshore pipeline component

Figure 1.1 – Project elements

2.0 CONSTRUCTION OVERVIEW

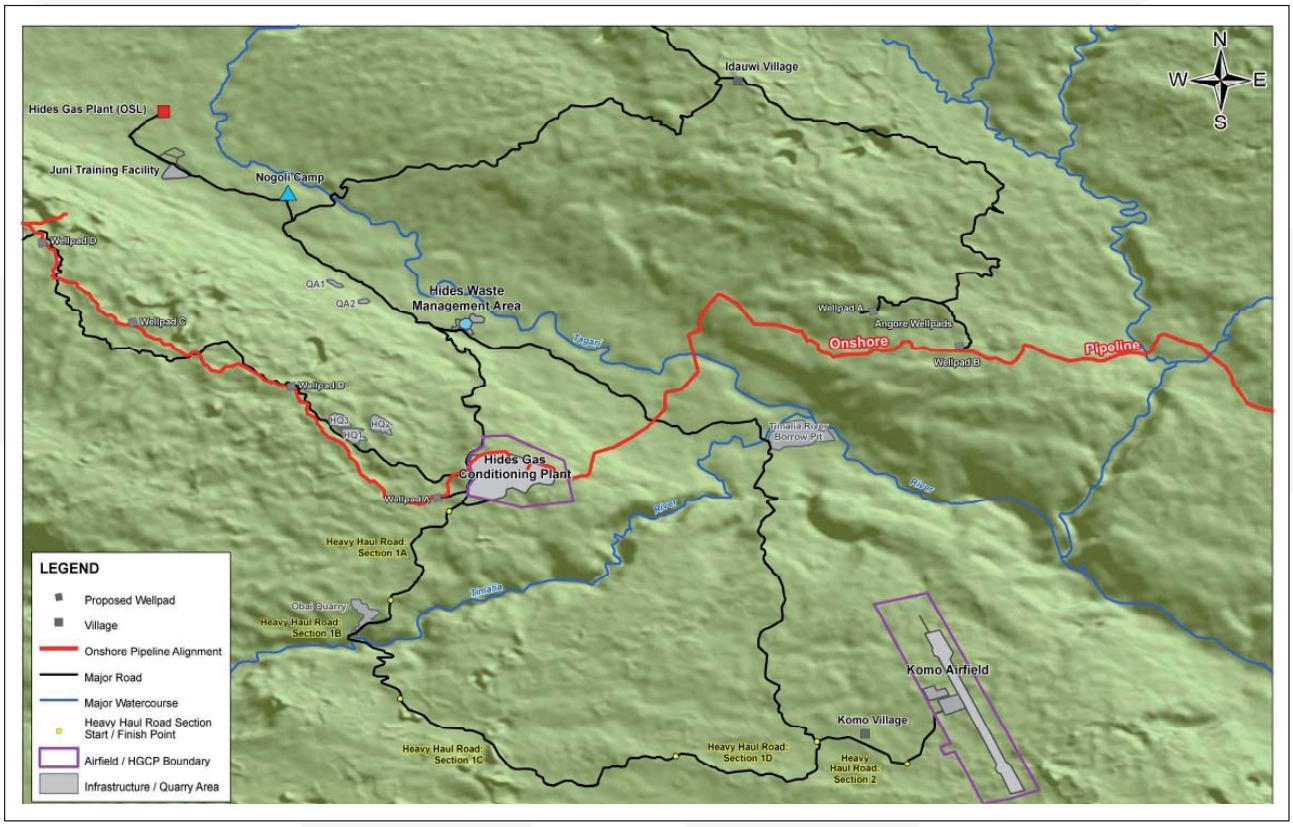
Construction activity increased during this quarter with the main contractors scaling up their mobilization into Papua New Guinea, particularly the Onshore Pipeline contractor and the LNG Plant and Marine Facilities contractor and subcontractors.

Efforts also continued on improving and upgrading infrastructure, including road and bridgeworks and the installation of the construction camps.

Detailed engineering, execution planning and procurement activities continued to progress at the main office locations of the Engineering, Procurement and Construction (EPC) contractors.

2.1 Highlands Area (Drilling, HGCP, Komo Airfield, Heavy Haul Road, Supply Routes)

Figure 2.1 – Highlands area Project activities (all phases)



2.1.1 Upstream Infrastructure

Work progressed at Upstream Infrastructure contractor sites as outlined below:

- Northern Logistics Route:
  - Repairs and propping of existing bridges continued. Road repair works along various sections of the highway progressed as planned, with particular emphasis on the Tari Gap section.

- Hides area/Hides Gas Conditioning Plant (HGCP):
  - Bulk earthworks continued on the HGCP site, with the completion of further areas for the construction camp and for the gas production facilities. Earthworks and roadworks for the quarry access road progressed, while crushing operations commenced and the development of the new quarry continued. The pre-assembly of accommodation units at Mendi and their mobilization to the worksite also continued.

- Southern Logistics Route:
  - Work in the Gobe area continued at the Kaiam Bridge site, along the Gobe to Mubi Road and at the Mubi Bridge site. Construction of the Kwil Creek Bridge commenced in December.
  - Works for the Mubi River ferry crossing were completed. The ferry is operational.
  - The Kutubu Central Processing Facility Bypass Road work was completed and the Ridge Bypass Road work is nearing completion.

Plate 2.1 – Aerial view of HGCP site

Plate 2.2 – Mubi River crossing and ferry

Plate 2.3 – Kutubu Central Processing Facility Bypass Road

Plate 2.4 – Bulk earthworks for water bore pad at HGCP

2.1.2 Hides Gas Conditioning Plant and Hides Wellpads

Detailed engineering, procurement and planning progressed at the contractor's offices in Singapore and Brisbane, including placement of a purchase order for steel reinforcing bar, with a Papua New Guinean supplier.

Site preparation work at the HGCP site is progressing, including bulk earthworks, the installation of the boundary fence and foundations for camp accommodation modules.

The contractor is finalizing preparations for full mobilization in-country.

2.1.3 Komo Airfield

The main areas of activity during this quarter were:

- Commencement and completion of bulk earthworks in the terminal area.
- Soil trails, with 6 of 12 pads complete, and embankment trails progressing.
- Completion of the Komo Airfield boundary fence.
- Site clearing.

Work on the camps continues, with completion of the 174-bed Pioneer Camp, and installation of foundations, accommodation units and the kitchen in the main camp.

Plate 2.5 – Main camp accommodation unit assembly

Plate 2.6 – Heavy Haul Road bridge upgrade: Talipuni upgrade work

Heavy Haul Road construction activities continue to progress, including the repair and upgrade of existing bridges and clearing and grading of the road.

In November, the Komo Airfield contractor reached a milestone of one million work hours without a Lost Time Incident.

2.1.4 Drilling

Highlights of the fourth quarter included the finalization of detailed drilling and completion designs and the commencement of rig construction activities. Long-lead procurement activities also advanced, with contracts awarded for well construction tubulars and wellheads.

Two Papua New Guinean drilling engineering trainees, recruited during the third quarter 2010, joined the team this quarter.

2.2 Onshore Pipeline

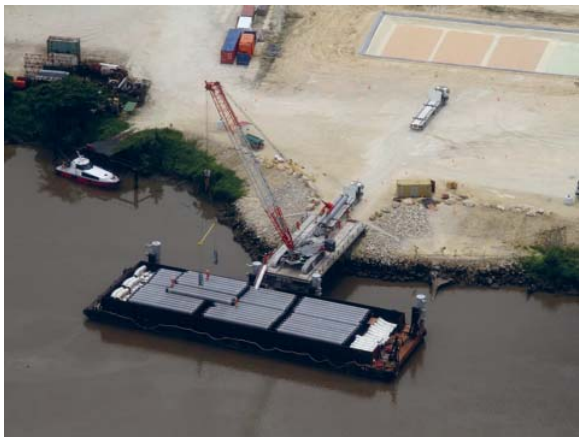
The Onshore Pipeline contractor increased construction activities during this quarter, notably:

- First deliveries of line pipe to Kopi Shore Base. Over 50 kilometers (31 miles) of 32 inch and 34 inch pipe was delivered.
- Right of Way (ROW) clearing commenced near Kopi Scraper Station.
- Stringing of line pipe commenced along the ROW.
- Clearing and grading of the Kopi Scraper Station Camp was completed and the installation of fencing, foundations and accommodation units commenced.
- Kaiam Transit Camp area was cleared.

Plate 2.7 – Kopi Scraper Station

Plate 2.8 – Pipeline stringing at Kilometer Point 268

Plate 2.9 – Pipe offloading at Kopi Shore Base



The Onshore Pipeline contractor recorded 500,000 work hours without a Lost Time Incident in October.

2.3 Offshore Pipeline

The Offshore Pipeline contractor progressed detailed engineering, execution and installation planning activities at their Singapore office. Other activities included:

- Completion of environmental field studies for the Omati River channel deepening.
- Completion of offshore line pipe weld mechanical testing.

2.4 LNG Plant and Associated Activities

2.4.1 LNG Plant Early Works

During this quarter, activities were all associated with the upgrade of the Papa Lea Lea Road, including earthworks, grading, culvert installation and preparation for paving.

2.4.2 LNG Plant and Marine Facilities

The contractor progressed detailed engineering, procurement and planning activities notably:

- Completion of the 60 percent model review.
- Completion of human factors constructability review.
- Continuing Hazard and Operability Study reviews of vendor packages.
- The issue of steelwork drawings to the steel fabricator to enable the production of shop drawings.

LNG plant site preparation works increased in activity during the fourth quarter including:

- The temporary concrete batch plant was installed and the Project batch plant was under construction.
- Clearing and grading of the process and utility areas.
- Clearing of mangrove areas in preparation for the jetty test piles and the temporary seawater intake pipeline.
- Installation of subcontractor camp facilities.

Plate 2.10 – LNG plant site – perspective view

2.5 Associated Gas Development

The Associated Gas Development contractor continued detailed engineering, equipment procurement and execution planning for the Kutubu Central Processing Facility, Gobe Production Facility, crude export system and Kumul platform upgrades.

Fabrication of the replacement offloading buoy commenced at the fabrication subcontractor's yard in China.

Preparatory civil works also commenced at the Kutubu Central Processing Facility, as well as ongoing camp construction activities at the Oil Search Limited Ridge Camp.

2.6 Port Moresby Technical College

The Port Moresby Construction Training Facility was officially opened and began operating at full capacity.

2.7 Development Support – Logistics and Aviation

Earthworks for the Project helipad at Moro are nearing completion.

Design work for the Kopi Aviation Base continues, with earthworks and site preparation expected to start early in 2011.

The contractor is continuing to develop the scope, labor and cost estimates to manage drilling operation logistics.

2.8 Pre-Construction Surveys

Pre-construction surveys at Project worksites are a requirement of the Project Environment Permit issued by the Department of Environment and Conservation (DEC). These surveys address archaeology/cultural heritage, ecology, weeds and, where necessary, water quality (for example, in camp sites). Sensitivities identified during the surveys are subject to management and mitigation measures outlined in the Environmental and Social Management Plan (ESMP) or, as necessary, newly defined measures.

As the Project progresses, the DEC's workload, related to reviewing and approving pre-construction survey reports, will substantially increase. The Project and the DEC have agreed to a change in process to facilitate the timely approval and prioritization of reports. The new process allows that:

- When the pre-construction survey does not identify any new sensitivities and mitigation measures (that is when the mitigation measures are repeats of existing DEC approved mitigation measures), then DEC approvals are not required prior to construction. Submission to the DEC and advance approval of construction will only be required for pre-construction surveys which do identify a new sensitivity and mitigation measure.

- Pre-construction survey reports that have been completed but did not identify new sensitivities or mitigation measures will be submitted quarterly by the Project to the DEC for approval. These will incur a lag time of three months from submission to the DEC and approval, however, this does not need to occur in advance of construction activities.

The Project reviews all pre-construction survey reports and approves them for use on the Project. Contractors are provided with the pre-construction survey reports prior to entering a site. Permission to commence works is communicated to the contractor by the issuance of an approval letter/e-mail by the Project. Contractors provide implementation status updates for the measures in the pre-construction survey reports to the Project.

During the fourth quarter, the Upstream Infrastructure contractor achieved an environmental milestone when it completed planned pre-construction surveys for all of the worksites and received access (reports issued to the DEC for information/approval) to all of its worksites. As construction progresses, additional worksites may be identified (such as quarries or laydown areas) and each will be the subject of a pre-construction survey.
For Hides Ridge, an alternate approach was needed due to the challenging terrain and difficulty of safe access. The pre-construction survey report was completed and submitted to the DEC based upon aerial surveys and the application of standard mitigation measures similar to previous environmental pre-construction surveys across the Upstream Infrastructure sites. The Project and contractor environmental survey teams will complete ground-truthing surveys to confirm these mitigation measures (or identify additional ones) ahead of construction.

The main pre-construction survey effort this quarter concentrated on the onshore pipeline with approximately 58 percent of the 292 kilometer (181 mile) main pipeline route surveyed.

Pre-construction surveys completed in the fourth quarter are illustrated in Figure 2.2. Pre-construction survey reports submitted to the DEC in previous quarters and approved in this quarter are also shown.

Figure 2.2 – Pre-construction survey progress

1	Protected Areas	4	Sites or Habitats of Ecological Significance
2	Protected Species	5	Cultural Heritage Sensitivity
3	High-Conservation Value Habitat	6	Social Sensitivity
☑	Approved by DEC	➲	DEC Permission to Construct
✍	Report in Preparation	*	Submission/Approval Month (2010)

Survey Site	Sensitivities Surveyed						Status	
	1	2	3	4	5	6		*
SOUTHERN SUPPLY ROUTE								
Kantobo to Mubi River Road (0-3 kilometers) (revised)		✓		✓	✓		☑	Nov
Kantobo to Mubi River Road (3-8 kilometers)		✓		✓	✓		☑	Nov
Mubi West Quarry		✓		✓	✓		☑	Nov
HIDES								
Hides Waste Management Area		✓		✓	✓		☑	Nov
Hides Wellpads B to G and Access Road		✓		✓	✓		☑	Nov
Bridge HP03					✓		☑	Nov
Spoil Site HGCP to Hides Quarry Road					✓		☑	Nov
Bridge KB02					✓		☑	Nov
ONSHORE PIPELINE FACILITIES								
Access Roads, Borrow Pits and Pipe Laydown Areas between Kopi and Omati Area		✓		✓			➲	Dec
Gobe Laydown Area		✓					➲	Nov
Gobe Spurline		✓		✓	✓	✓	➲	Dec
Gobe Landfill				✓			➲	Dec
Kaiam Camp and Laydown Area		✓		✓			➲	Dec
Pinnacle Quarry, Kilometer Point 275		✓		✓			➲	Dec
Onshore Pipeline Right of Way: Kilometer Point 173.6 to 190		✓					➲	Nov
Onshore Pipeline Right of Way: Kilometer Point 190 to 225.6					✓		➲	Nov
Onshore Pipeline Right of Way: Kilometer Point 225.6 to 234.5		✓					➲	Nov
Onshore Pipeline Right of Way: Kilometer Point 234.5 to 250		✓					➲	Nov
Onshore Pipeline Right of Way: Kilometer Point 250 to 261		✓					➲	Nov
Onshore Pipeline Right of Way: Kilometer Point 278 to 292		✓					➲	Nov
Tamadagi Camp							✍	-
Daware Camp							✍	-
Auni Guest House							✍	-
Access Road Kilometer Point 236 to 252							✍	-
KOMO AIRFIELD								
Komo Quarry QA-1				✓	✓		✍	-
Tamalia Boulder Quarry		✓			✓		✍	-

Environment Permit sensitivity definitions:

1 - Protected Areas

Recognised or pending protected areas which include but are not limited to wildlife management areas, conservation areas, Ramsar sites, provincial reserves, national reserves, sanctuaries and protected areas, and national parks.

2 - Protected Species

Any species protected under Papua New Guinea legislation or listed in Convention on the International Trade in Endangered Species appendices, or in the International Conservation Union (IUCN) Red Data Book as Critically Endangered, Endangered Vulnerable or Data Deficient.

3 - High-Conservation Value Habitat

Any habitat identified within the high-conservation value Forest Toolkit as being within categories high-conservation value 1-5.

4 - Sites or Habitats of Ecological Significance

Sites or habitats of ecological significance such as:

a) Caves with a large entrance which may be used by bat colonies.

b) Pinnacles containing bat colonies.

c) Birds of paradise or bower bird display trees or display grounds.

d) *Pandanus* swamp forest.

e) *Nothofagus* (beech) forest.

f) Areas of Antarctic Beech *Nothofagus* spp. dieback.

g) *Pharotis imogene* (New Guinea big-eared bat) colonies.

h) Sandalwood *Santalum macgregorii* trees.

i) High-value conservation swamps containing juvenile fish nursery habitat.

j) Swamps in sink holes < 50 m deep on Hides Ridge.

k) Areas of infestations of priority weeds or pests.

m) Mangrove stands and forest.

n) Seagrass beds.

o) Coral reefs.

5 - Cultural Heritage Sensitivity

Any site in which any cultural property as described in s. 20(1) of the National Cultural Property (Preservation) Act has been located.

6 - Social Sensitivity

Issues include, but are not limited to:

a) Impact on previously undisturbed sites of cultural heritage.

b) Significant and unpredicted loss of resources that affects livelihoods.

3.0 SAFETY, SECURITY, HEALTH, ENVIRONMENT AND SOCIAL MANAGEMENT

Protecting the environment and promoting the safety and health of Project workers and the communities in which Project-related activities occur is a Project value. The Project is also focused on promoting economic growth and social development for Papua New Guinea while bringing its natural gas to the Asia Pacific market.

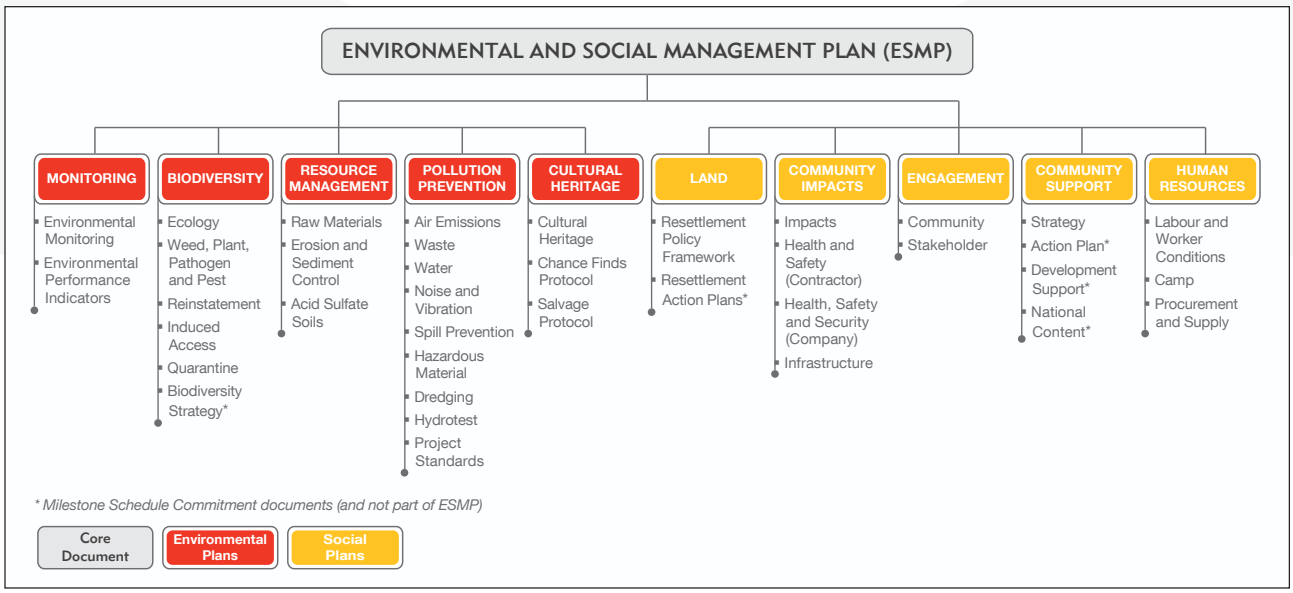
3.1 Approach

The Project's commitments and approach to environment and social management are documented in a public document called the Environmental and Social Management Plan or ESMP. This Plan, which is supported by a series of discipline-specific plans detailed in Figure 3.1, provides an overview of the environmental and social management risks associated with the Project, and details mitigation and monitoring measures being adopted in response. The ESMP and its component plans stem from the Project's Environmental Impact Statement and have been approved by the Lender Group as part of the Project's accountability and compliance requirements. They are publicly available on the Project's website, www.pnglng.com/commitment.

The Project also has a Safety Management Plan, a Health Management Plan, a Regulatory Compliance Plan and a Security Management Plan.

Collectively, these documents demonstrate the priority being placed on promoting sustainable economic growth in Papua New Guinea and reflect the global experience of ExxonMobil. These Plans are also proving invaluable resources for creating a best practice culture across the Project and its contractors as construction work progresses.

Figure 3.1 – Environmental and Social Management Plans



3.2 Contractor Management

The Project has seven contractor-related social management plans outlining mitigation measures aimed at reducing negative impacts on communities and ensuring fair and equitable working and living conditions for workers. The seven plans cover Community Engagement, Community Health and Safety, Community Infrastructure, Community Impacts, Procurement and Supply, Camp Management and Labour and Worker Conditions Management.

In this quarter, contractors finalized their site-specific plans to implement measures described in the seven contractor-related plans, and site-specific monitoring is underway. The Project's Socioeconomic team is working with the contractors to finalize their worker welfare and community relations plans.

3.3 Security

Drawing on ExxonMobil's global experience operating in complex environments, the Project's security approach is based on coordinating and promoting an open dialogue between the Papua New Guinean Government, the Royal Papua New Guinea Constabulary, the entire Project team and the communities in which the Project operates.

Sustaining long-term relationships in the communities in which the Project works is central to the Security Strategy. The Project's Socioeconomic, Security and Management teams work together to achieve this. The Project also works closely with Project contractors, service providers, and the Papua New Guinean community, to maintain and manage security in Project work areas.

From a process perspective, the Project systematically addresses security challenges through targeted risk assessments conducted with technical and subject matter experts to identify potential security risks and design appropriate mitigation measures. In addition, systematic inspection, testing and auditing procedures ensure that any security risks are mitigated in accordance with best practice approaches and corporate expectations.

As a key service provider to the Project, the Esso Highlands Limited Security function continues to develop risk-based solutions, ensuring that it is agile enough to quickly adapt to the challenges faced by the construction teams as well as implement corporate security expectations in a dynamic operating environment.

The Government of Papua New Guinea is supporting a stable and safe operating environment by providing an ongoing police presence as work activities increase. This extends to supporting its officers undergoing training in the Voluntary Principles of Security and Human Rights prior to deployment in Project areas as well as improving the capacity of the Provincial Police through support, training and mentoring.

In relation to an incident in September, 2010 (mentioned in the PNG LNG Quarterly Environmental and Social Report – Third Quarter 2010) in which Project vehicles and equipment were damaged at a quarry site in Kaiam, the police investigation remains open.

3.4 Revenue Management

The Project is committed to honest and ethical behavior, and opposes corruption by supporting transparency. It also recognizes that good governance, accountability and revenue transparency are critical to ensuring that the value unlocked from the extensive gas resources of the Southern Highlands provides economic growth, a better standard of living and increased opportunities for Papua New Guinean citizens.

Speaking at a Petroleum Conference in Sydney, Australia in December, Papua New Guinean Government officials stated they were progressing the establishment of three offshore funds to manage future revenues from the Project. This follows discussions between the governments of Papua New Guinea and Australia that have focused on Australia's experience with offshore accounts as a mechanism for the effective and transparent management of resource revenues.

Meanwhile, the Project remains an active member of Transparency International, a global coalition dedicated to increasing Government accountability and curbing both international and national corruption. Transparency International has a presence in over 80 countries including Papua New Guinea.

3.5 Management of Change

The Project has a Management of Change procedure in place so that changes to the Project's scope are appropriately reviewed and endorsed prior to implementation. Proposed changes are considered against Project requirements spanning safety, security, health, environment and social management, as well as operability and maintenance, regulatory and cost, and scheduling requirements. Changes are given a classification to ensure they are appropriately managed. For example, Class II changes are of moderate significance and require Lender Group notification in the PNG LNG Quarterly Environmental and Social Report. Class I changes require Lender Group review prior to implementation.

During this quarter, there was one Class II change where the Offshore Pipeline contractor requested to use their own pipe lay vessel (Castoro 10) for installing the Project pipeline in the shallow water section of the Omati River. The vessel has a deeper draft than the new-build shallow water barge originally proposed, resulting in a requirement for some additional dredging works. However, the Castoro 10 has its own accommodation and helideck, eliminating the need for a separate accommodation vessel and crew boat, thereby improving safety and reducing the environmental footprint by minimizing vessel movements and crew changes.

3.6 Environmental and Social Milestone Schedule Update

In the fourth quarter, the following documents were issued to the Lender Group as required by the Project's Environmental and Social Milestone Schedule:

- Biodiversity Strategy (Revision 1).
- Komo Access Road Resettlement Action Plan.
- Kopeanda Resettlement Action Plan.
- Heavy Haul Road Resettlement Action Plan.

The ESMP was also published on the Project's website (www.pnglng.com/commitment), along with other associated documents in accordance with the disclosure obligations defined in the Environmental and Social Milestone Schedule.

4.0 PROCUREMENT AND SUPPLY

A significant investment is being made by the Project to develop national supply sources and supply route logistics that are beneficial for both the Project and Papua New Guinea.

4.1 Supplier Development

As part of the National Content Plan, the Project seeks to optimize the participation of Landowner Companies (Lancos), creating opportunities for business and employment for Project area landowners.

The business available to Lancos and other Papua New Guinean companies during the Project's construction phase was originally estimated to be around 1.26 billion Kina (US$498 million) in total. To facilitate the participation of Lancos in these opportunities, the Project requires its contractors to develop a Local Business Development Program and to use Lancos for a range of specified tasks. The Project also works with Lancos to implement capacity building programs to advance their technical, operational and business management capabilities, and monitors and evaluates their performance.

During this quarter, more than 4,000 personnel from 14 Lancos were engaged in Project activities such as construction labor, catering and camp management, security and transport.

Purchasing local goods and services transfers knowledge and skills and increases local suppliers' capability to meet global standards. During this quarter 628 million Kina (US$238 million) was committed to Papua New Guinean goods and services. Throughout the year, more than 1.5 billion Kina (US$567 million) was spent. The majority of this investment relates to continued early works infrastructure construction, the scaling up of the upstream infrastructure and onshore pipeline works and early works at the LNG plant site as well as the completion of the construction training facilities at the Port Moresby Technical College site.

During October, Transwonderland was awarded the most significant contract of any Lanco to date. In a deal worth 500 million Kina (US$189 million) Transwonderland will provide all logistics and transportation requirements for the Project's Northern Logistics Route through a joint venture agreement with Agility Logistics. This will include a central base for receiving, storing and processing goods and equipment. A designated fleet of trucks from the national Lanco trucking companies will also transport freight to Project sites.

Meanwhile, the Laba Alliance Group (a joint venture between the umbrella company formed from the four Lancos representing the villages near the LNG plant site and two established camp management and catering services companies) has been selected to service the catering and camp requirements for the construction phase of the LNG plant site. It is anticipated that they will serve 17 million meals over the construction period of the LNG plant site.

4.2 Enterprise Centre

The Enterprise Centre, an independent institution located within the premises of the Papua New Guinea Institute of Banking and Business Management in Port Moresby, is playing a key role in support of the Project's National Content Plan objectives. The Centre has spent more than 2.7 million Kina (US$1.02 million) during 2010 maintaining the PNG Supplier Database, building the capacity of Papua New Guinean companies, and facilitating communication about business opportunities between these companies and the Project's contractors and subcontractors.

Work has commenced on a new, permanent building for the Enterprise Centre and is expected to be completed by the second quarter 2011. The new Centre will be located on the Papua New Guinea Institute of Banking and Business Management premises, close to its current, temporary location.

4.2.1 Business Training and Assessments

Business training and assessments, including business improvement services such as Gap Analysis, consulting and advisory services, continue to be highly valued and popular with a diverse range of Enterprise Centre clients. During the year, a total of 68 business assessments were completed (as shown in Figure 4.1), mainly centered on construction, security, fuel supply and Lancos. In addition to receiving a proposed Business Improvement Plan with solutions matched against key management and performance standards, assessed companies' results have been promoted to Project contractors and subcontractors through the PNG Supplier Database and letters issued by the Enterprise Centre supporting bid proposals.

The training provided by the Enterprise Centre remains in high demand. For the full year in 2010, the Centre provided over 1,100 work days of training to the Papua New Guinean business community (refer to Figure 4.2).

Highlights during this quarter included a two and a half-day Basic Director course for 18 people from Porebada Ahine Limited, an all women incorporated company whose major activity will involve tailoring and camp maintenance services. The women formed the company following a five-day Business Basics course they completed through the Enterprise Centre earlier in the year.

Plate 4.1 – Conducting business assessments

Plate 4.2 – Directors of the all-women Lanco, Porebada Ahine Limited, being trained by the Institute of Banking and Business Management on 'Roles and Responsibilities of being a Director'

Figure 4.1 – Enterprise Centre assessments of local companies

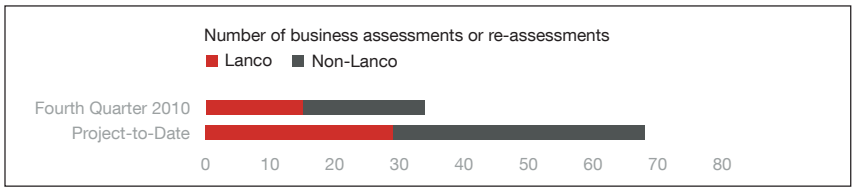


Figure 4.2 – Capacity building in training

NOTE: The Papua New Guinea Institute of Banking and Business Management provided training prior to the Enterprise Centre's opening in April, 2010.

An Upstream Directors' Training Program was also attended by 58 Directors from Representative Lancos, followed by the provision of Business Advisors to those Representative Lancos requiring significant support establishing their operations. The advisors are able to assist, for example, in developing business strategies, documenting business opportunities, preparing contracts and joint-venture agreements and evaluating technical capabilities for providing goods and services.

Plate 4.3 – Upstream Directors Training on 'Roles and Responsibilities of being a Director'

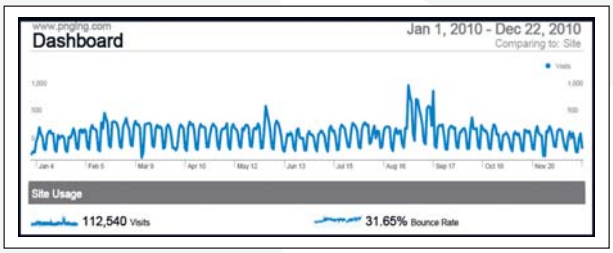
4.2.2 Enterprise Centre Communication and Events

The PNG Supplier Database and on-line Dashboard facilitates the sharing of information between local companies and Project contractors by providing a platform for Project contractors to access Papua New Guinean company profiles and for Papua New Guinean companies to obtain information about the Project. The PNG Supplier Database continued to receive new registrations during this quarter.

During the year of 2010, the PNG Supplier Database recorded 13,201 page logins. Included in this total were 1,028 registered expressions of interest from Papua New Guinean businesses.

In addition, the Enterprise Centre Communications team took part in a number of meetings and events aimed at helping Papua New Guinean businesses better understand business opportunities associated with the Project. This included making a presentation to 900 participants at the Certified Practicing Accountants Annual Conference in Port Moresby in November and two meetings with the Secretary from the Department of Labour and the Central Provincial Government respectively. The Enterprise Centre is also liaising with the Investment Promotion Authority, which shares the objective of assisting Papua New Guinean companies to grow and become sustainable.

Figure 4.3 – Screenshot of PNG Supplier Dashboard showing 112,540 visits from 162 countries during the year



5.0 COMMUNITIES

The Project has detailed plans and processes aimed at anticipating the potential impacts of construction activities on local communities within Papua New Guinea. These processes are also focused on understanding community perspectives on issues of mutual interest.

5.1 Structure and Relations

Community interactions and impacts are managed under a set of management plans developed for the Project. Each plan has a specific scope as outlined in Table 5.1.

Table 5.1 – Community based management plans and scopes

Community Engagement Management Plan	Community Impacts Management Plan	Community Infrastructure Management Plan	Community Health and Safety Management Plan
Scope of Plan			
Covers community relations, grievances and disruption.	Addresses impacts that may affect the structure of, and relations within, communities.	Aims to avoid or minimize the impact of construction activities on existing community infrastructure and services.	Focuses on avoiding or minimizing risks to, and impacts on, the health, safety and security of the local community during construction.

These plans, collectively known as community impacts plans, are part of the ESMP as shown in Figure 3.1. The Project's progress on community structure and relations activities is outlined in the following sections.

5.1.1 Community Grievance Procedure

Capturing data relevant to the social impacts of the Project allows potential issues to be anticipated and mitigated, and any grievances that arise to be appropriately reported, assessed and managed. The Project is committed to proactive issue management thereby avoiding issues resulting in grievances where possible.

To support this approach, the Project has an Information Management System (IMS) built around five main modules – Grievances, Stakeholder Engagement, Resettlement, Compensation, Community Support and Liaison Activities – supporting the Socioeconomic team's main business processes. The IMS is web-based and enables operational data to be captured and reported on a timely basis so that Project managers can develop strategies and plan their work proactively. The IMS Grievances module is enabling systematic, electronic management of the Community Grievance Procedure.

To date, 80 percent of the Socioeconomic team has been trained in the Grievances and Liaison Activities modules of the IMS. Trained personnel are expected to utilize the system on a daily basis, entering, updating and reviewing grievances captured during the day. In cases where there is no internet access, officers complete offline template forms and send them in hard copy, with any additional source documents, to the Project's Document Controls group in Port Moresby.

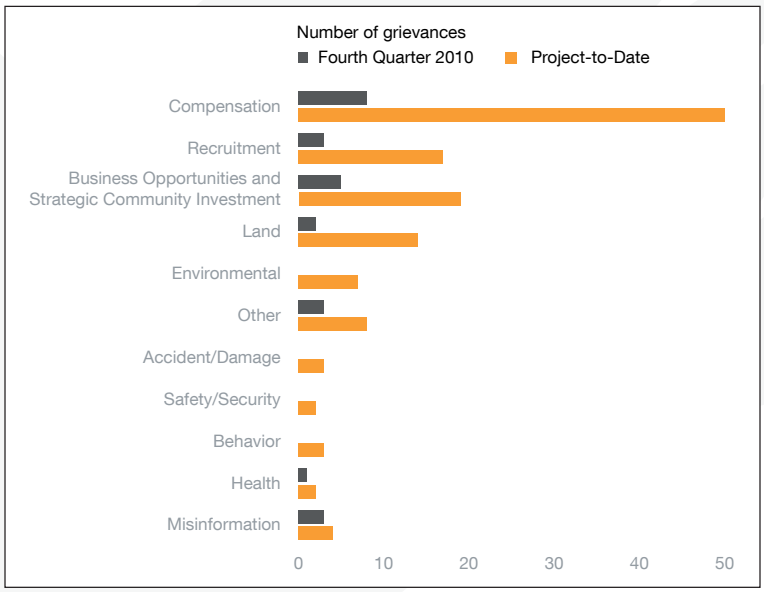
During the fourth quarter, 122 issues were registered from 21 communities in the Project Impact Area. Most issues covered social, economic and community affairs areas. A total of 43 grievances were registered. Of these, 25 have been assessed and categorized as displayed in Figure 5.1.

Most grievances are related to compensation and business opportunities and strategic community investments. Compensation grievances were elevated and a specialist has been identified to assist with facilitation of surface damage and deprivation payments, commencing in the first quarter 2011. Other grievances relating to recruitment, land disputes, business opportunities and strategic community investments and environment were appropriately processed and closed in a timely manner. During this quarter, 19 grievances were closed with a 100 percent satisfaction rating for the process used.

For the Project-to-date, 28 grievances have been closed with an overall 91 percent satisfaction rating for the process used.

The Project still faces some cultural challenges with regard to the reporting and recording of issues and grievances. To help facilitate effective use of the grievance process, the Project is distributing information cards to villages in the Project Impact Area and has established a dedicated on-line grievance mailbox enabling grievances to be e-mailed. The Socioeconomic team is examining additional ways to encourage teams to adopt and support the ongoing implementation of the Community Grievance Procedure.

Figure 5.1 – Grievances assessed by category



5.1.2 Project Induced In-Migration Study

Having completed a comprehensive Project Induced In-Migration Study, the Project has taken steps to address the identified potential impacts. The Study has identified risks of adverse effects caused by Project Induced In-Migration, which are grouped into the following five clusters:

- LNG plant site.
- Kopi/Kikori Cluster.
- Gobe Cluster.
- Moro Foi/Fasu Kutubu Area Cluster.
- Greater Hides/Moran Cluster including Komo.

An action plan comprising a range of activities including baseline monitoring, community awareness and training workshops, and formulation of area-specific action plans, has been developed based on the findings of the Project Induced In-Migration Study, and is in the early stages of implementation.

5.1.3 Fisheries Surveys

The Project's fisheries team is undertaking regular fish catch landing surveys at the villages of Papa, Lea Lea, Porebada and Boera. Surveys take place in the villages when supported by the host communities and the Socioeconomic team. To date, fish catch landing surveys and awareness meetings have taken place in Papa (seven visits), Lea Lea (six visits), Porebada (six visits) and Boera (seven visits).

Plate 5.1 – Senior fisheries Economist explaining the value of recording fish catches to fishermen at Boera Village

Fish catch landing surveys record the size and species of fish and other marine or freshwater life caught by local fishermen. Detailed information gathered during interviews is not shared with other fishermen. The survey involves a structured interview with fishermen asking about their fishing activities and the fisheries team taking photographs and weighing the fishermen's catch.

Plate 5.2 – Fisheries Biologist measuring fish at Porebada Village during an overnight in-village survey

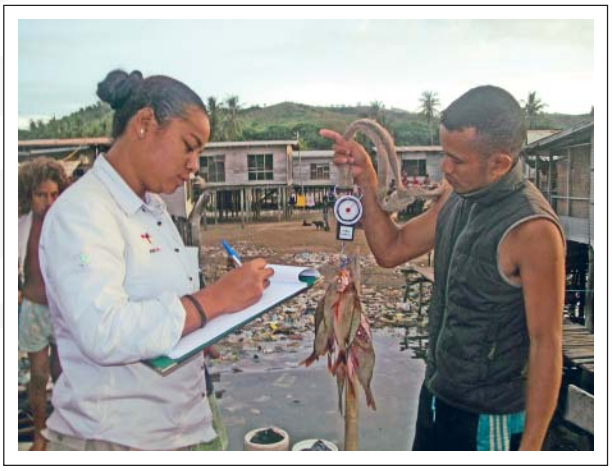


Plate 5.3 – Senior fisheries Biologist talking through the fish catch landing survey with a fisher from Papa Village

Plate 5.4 – Canoes are the main vessels used along the waterway as transport

During late November, 16 fishermen from Porebada were interviewed during an in-village overnight survey conducted by the fisheries Biologist from the village. In-village overnight surveys are being evaluated as a way to improve data capture of local fishing activities and build on current one-day-a-week fish landing survey efforts.

The fisheries team includes qualified Papua New Guinean citizens who have experience both within Papua New Guinea and internationally. In collaboration with the Socioeconomic team, the fisheries team continues to meet frequently with village leaders to discuss the survey activities and to improve understanding and support for the fish catch landing survey.

5.1.4 Social Considerations for Logistics Activities

During construction of the pipeline, specific locations along the Omati River will be temporarily closed. In December, the Project's fisheries team completed a 17-day baseline survey of subsistence fisheries, waterway use and waterway traffic from the Omati Landfall Site to the Omati River mouth. The area is sparsely inhabited, with the bulk of landowners usually resident in Kikori, the nearest large town. Thirty-five households from Goare, Ai'dio, Dopima, Kemei, Mobagoho and Bisi provided information about their household's daily activities, which included information such as sites from where drinking water is drawn, fishing sites and waterway sites for processing sago.

Other waterway information based on local ecological knowledge was the possible occurrence of endangered species, notably the Irrawady and Pacific Humpback Dolphins, as well as the availability of different food species. The suggestion of the presence of endangered species will be further investigated.

Water traffic through Goare, Ai'dio, Aumo Passage and along the northern length of Goaribari Island was also monitored by trained village teams. The main local traffic through the four sites were canoes, occasional dinghies, going through to Kikori and logging barges transporting logs from the Turama River through the A'a Passage to Kikori. It was noted that Goare Village on Goaribari Island would require alternate access to its village front waterway during construction. The fisheries team confirmed that an alternate and accessible waterway next to Goare Village was available and commonly used.

5.2 Infrastructure, Services and Resources

The Papua New Guinean Government is upgrading the road through from Port Moresby through Baruni Village to the LNG plant site. The Project has introduced measures to reduce traffic impacts on the community including a footpath, temporary speed bumps (until permanent speed bumps are constructed) and pedestrian crossings at various locations selected by the community.

The Papa Lea Lea Road upgrade from Konebada to the LNG plant site is also underway and measures to divert stormwater away from gardens located near the road are being implemented. Meanwhile, the road upgrade and bridge propping program along the Highlands Highway from Tari to Mendi is underway.

Mitigation measures have been developed to minimize the loss of amenity and accessibility to infrastructure as a result of Project impacts on water sources at Hides and Komo. Water specialists were appointed to identify a solution and agreement was reached for the construction of 19 'haus wins', which are open, communal meeting spaces where rainwater tanks will be installed to augment water supplies. Agreements have been signed with landowners at 10 of the 19 locations, building materials ordered and construction has commenced.

The Project continues to work with the Southern Highlands Provincial Government to relocate the Para School. The new school site has been identified and landowners have signed an agreement with the Provincial Government for land acquisition. The Socioeconomic team continues to liaise with the community on progress. The new school construction will commence once land access has been confirmed. As an interim measure, during this quarter, the Project undertook some remedial works at the current school to create an improved learning environment for teachers and students.

Memorandums of Understanding

A Memorandum of Understanding to build an access track around the northern and southern ends of the Komo Airfield has been signed by the Komo Airfield contractor, the Socioeconomic team and the clan leaders in Komo.

Plate 5.5 – Decie Autin, Project Executive, Esso Highlands Limited delivering packs to Para School

Plate 5.6 – Discussing the access track Memorandum of Understanding

Plate 5.7 – Transport of pipe from Paia to Kopi by barge and tug

A Memorandum of Understanding has also been established with the community in the Omati/Kikori region to facilitate the safe and secure transportation of pipe, machinery and equipment along the river systems in the region. The Memorandum of Understanding was signed with the tribal groups, who hold customary interests in lands and waterways to be utilized for the transport of pipe, machinery and equipment for the Project. They include the Barging Route tribal group comprising the Porome tribe, Urama tribe, Paiaa tribe, Kibiri tribe and Rumu tribe, and Pipeline ROW tribal groups including the Morigi tribe, Kerewo tribe and Omati tribe.

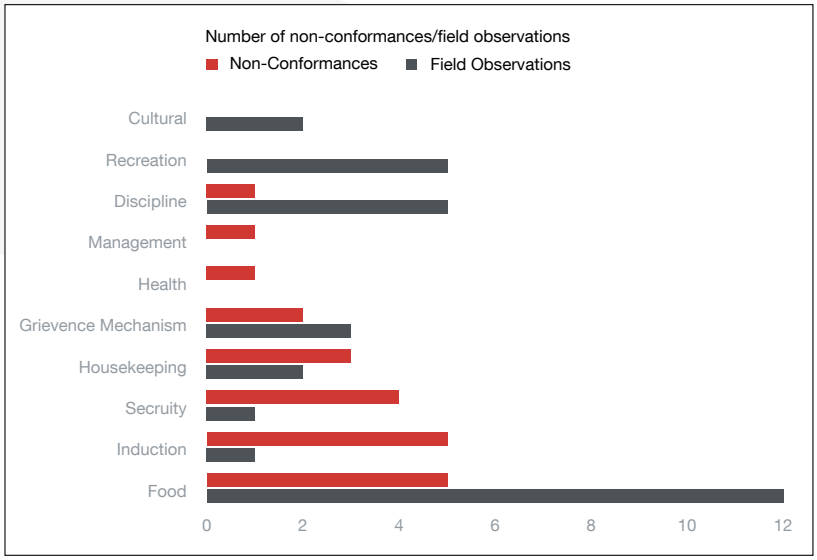
5.3 Verification, Monitoring, Assessment and Audit

The Project has many contractors and subcontractors completing various scopes of work. All contractors and subcontractors are required to comply with mitigation measures described in the Project's seven contractor-related social management plans. These measures help contractors reduce community and worker issues by promoting healthy relationships. A social monitoring system was introduced in October to monitor contractor progress in this regard.

The Project's Socioeconomic Interface and Contractor Compliance leads are responsible for social monitoring. They regularly monitor contractors and subcontractors, assessing their performance against mitigation measures described in the relevant Project social management plans.

Contractors and their subcontractors are also required to conduct their own monitoring, and record and report their progress each month to the Project Management team.

Figure 5.2 – Non-conformance/field observation summary



Four social monitoring reviews focused primarily on camps were undertaken during the quarter. These reviews resulted in a number of non-conformances and field observations which have been translated into action plans. Figure 5.2 illustrates the findings.

The Project's Socioeconomic Interface and Contractor Compliance leads are working with contractors to resolve and close-out non-conformances and field observations.

In addition to the non-conformances and field observations, a number of positive findings have also been recorded.

5.4 Community Health

The Community Health Management Program focuses on potential health impacts that may arise from contractor and community interaction. Program activities are closely coordinated with voluntary health programs conducted through the Public and Government Affairs team and with any health related initiatives conducted through the Strategic Community Investments Program.

5.4.1 Integrated Health and Demographic Surveillance System

A new office was established during this quarter for the Partnership for Health, formed through a formalized partnership agreement between the Project and the Papua New Guinea Institute of Medical Research (IMR).

One of the Partnership for Health's priorities is extending a formal Integrated Health and Demographic Surveillance System (iHDSS) to monitor LNG plant site communities, Hides area villages and two matched control sites.

The Partnership for Health has already enabled the IMR to collaborate with the Central Province Health Department to initiate the iHDSS in the area around the LNG plant site. This program will provide input to the Provincial Health Department to accurately understand, diagnose and treat health issues occurring in the LNG plant site area. Specifically, the following achievements have been made in the LNG plant site area during this quarter:

- Training of Provincial Health Department workers to introduce the iHDSS and explain the process of community monitoring was completed.
- A census was initiated with a survey completed at Boera.
- Training in undertaking a verbal autopsy (cause of death) and completion of the verbal autopsy form was provided by the University of Queensland, Australia. Determining cause of death is an important aspect for mortality surveillance.
- A verbal autopsy mortality survey was ongoing in Boera.
- A post-doctoral level demographer was assigned from the University of Queensland, Australia.
- A post-doctoral social scientist/human geographer was recruited to start in the first quarter 2011 and will be based in Port Moresby. This scientist will focus on social determinants of health.
- The recruitment of a Port Moresby based health monitoring physician was completed, along with the ongoing development of Standard Operating Procedures for the relevant clinical work.

For the Hides area, the following iHDSS activities were undertaken by the IMR:

- A facility site review was completed for all iHDSS clinical locations.
- The villages in which sentinel surveillance (the iHDSS process) will be undertaken were selected and prioritized.
- IMR staff met all local clinic medical staff including nurses, community health workers and health extension officers at iHDSS clinical locations to explain the program and how they will work together.
- IMR and the Evangelical Church of Papua New Guinea will establish protocols for working with the Church in their existing clinics.

The Evangelical Church of Papua New Guinea (Church) is a faith based evangelical organization. Having started in the Tari area in 1935, the Church celebrated its 75th jubilee in 2010. The organization's programs cover an area from Samberigi up to the Hides/Tari areas and the Western Province. According to the Church, three-quarters of the population in the Hela Province are members of their faith. Outreach programs in health and education were established in the 1970's by missionaries from Australia and New Zealand and were gradually handed over to local members to manage.

5.4.2 Scoping and Feasibility Analysis

A Scoping and Feasibility Analysis was completed during this quarter. The Analysis aims to determine which health and education programs can achieve sustainability and covers five geographic areas; the LNG plant site, the Gulf Province, Onshore Pipeline Route, Hides and the Northern Logistics Route. Results of this Analysis have provided the input needed for further defining and implementing community health programs undertaken by the Project.

5.4.3 Health Services Infrastructure/Capacity

Significant progress was made on relationships with local health services initiatives during the quarter. Site assessments were conducted of Hides area health centers to determine their capacity, services offered and potential areas where the Project could work with the Government health services to support non-government organizations to enhance capabilities and provide sustainability.

Support was provided to community health posts in the Hides area that have been successfully implementing the Papua New Guinean Government Immunization Program. Health outreach patrols at Mananda and Idauwi in the Hides area were provided with health patrol kits (portable lightweight tables and chairs for use during immunization campaigns) to assist with immunization patrols to rural and hard to reach villages.

Plate 5.8 – Community Health Workers with their health patrol kits

The Project has continued its support to the Salvation Army Health Service with the donation of diagnostic supplies, medical equipment, obstetrical and examination beds, intravenous poles and a number of other items to equip their newly renovated Papa Community Health Post.

Plate 5.9 – Papa Community Health Post after renovation by the Salvation Army

Plate 5.10 – Rose Mani, Community Health Worker at Porebada Aid Post demonstrating the proper technique for an ear examination on Joyce Ingirim, Hiri District Maternal Child Health Coordinator

Based on needs identified by local health workers and the Hiri District Maternal Child Health Coordinator, small diagnostic equipment was obtained by the Project and delivered during this quarter to both Papa and Porebada Health Posts to assist with patient care.

In coordination with the Hiri District Health Program, the Project has also donated diagnostic tools to assist with diagnosing ear infections. At the time of donation, health workers were supervised by the Maternal Child Health Coordinator to ensure proper use of the equipment. The ability to differentiate between ear infections and malaria as a cause of a fever is very important in determining appropriate treatment.

In December 2010, the non-government organization Population Services International, and Marie Stopes Papua New Guinea entered into an agreement in which Marie Stopes Papua New Guinea would collaborate with the local health services to conduct both 'Fit Meri (women)' and 'Fit Man' clinics. These programs, funded by the Project, are being implemented in all four LNG plant site area villages in the Central Province (Papa, Lea Lea, Porebada and Boera) to educate people about family planning and sexual and reproductive health issues. They will continue in 2011.

A coordination meeting was held with the Church in Tari to discuss the implementation of the Project Community Health Management Program through Population Services International as an umbrella organization.

The Church's Walete Mission Centre, located between Tari and Kobalu and used by the organization as a conference center, was visited to evaluate the feasibility of using it as a venue for community-based educational programs and/or health worker in-service training/ workshops. This facility will be considered for hosting future community based health programs.

5.4.4 General Community Health Education

Along with the World Acquired Immune Deficiency Syndrome (AIDS) Day activities, covered in *Case Study One – World AIDS Day Activities*, snakebite first aid programs were conducted during the quarter by Project community health officers for 20 participants from three LNG plant site villages; Papa, Porebada and Boera.

The Project is funding a program involving the training of Health Extension Officers who will travel between Project health clinics. The Health Extension Officers will spend time in a select number of clinics to obtain training in trauma care. Planning for the program commenced in the fourth quarter with the Health Extension Officers to begin training in the clinics in the first quarter 2011.

Snakebite First Aid Program

A Snakebite First Aid Program has been conducted in three LNG plant site villages (Papa, Porebada and Boera) to raise awareness about the types of poisonous snakes in the communities and train participants in providing initial help for community members before transporting them to specialist care facilities in Port Moresby. Pre- and post-Program evaluations indicated that all participants had improved their knowledge regarding the identification of snakes and appropriate first aid care.

In addition to question and answer sessions, participants were provided with information regarding general statistics on venomous and non-venomous snakes; the identification of Papua New Guinean snakes, their natural habitats and the geographical distribution of each of the snakes; snake behavior; the effects of venom poisoning from the different snakes; principles and first aid treatment and prevention of snake bites.

Demonstration of leg splinting techniques

Following a cholera outbreak in the third quarter 2010, the Project provided support to Kikori Hospital by conducting sanitation and hygiene education and training programs throughout 13 villages in Kikori, focusing on hand washing, waste disposal, sanitation and food and water safety for the prevention of cholera.

5.4.5 National Program Management Delivery Systems

The design phase of the National Infectious Diseases Diagnostic and Research Laboratory and Outreach Program continued this quarter as part of the Project's Strategic Community Investments. The Program is being undertaken in conjunction with the University of Papua New Guinea School of Medicine and the IMR. An infectious disease diagnostic laboratory is being established at the School of Medical Health Sciences' main campus. A conceptual design was developed during this quarter and draft Standard Operating Procedures were completed based on the 2010 Global Laboratory Initiative and World Health Organization standards. In addition, laboratory equipment needs were evaluated and orders placed, as well as the establishment of staff recruitment and training plans. A closed, self-contained, fully integrated and automated biohazard detection system will also be installed, and used to detect biohazards such as tuberculosis in samples. The system will be used at the Port Moresby laboratory and also at the Madang/Goroka research facilities. A biosafety and hazardous operations risk assessment workshop for the laboratory was completed with the IMR and a detailed report and action plan completed. A 'cold eyes' biosafety review by Swiss Tropical and Public Health Institute experts is planned for 2011. A detailed analysis of local clinic specimen collection requirements and a waste stream analysis were also performed in the quarter.

CASE STUDY ONE: WORLD AIDS DAY ACTIVITIES

To commemorate World AIDS Day held in December, the Project sponsored a program which covered the entire Project Impact Area. Objectives of the program were to:

- Involve Project workers in World AIDS Day activities.
- Improve awareness and knowledge regarding Sexually Transmitted Infections, including HIV and AIDS.
- Provide an example to contractors regarding expectations for future World AIDS Day activities.

More than 4,000 members of the Project workforce attended activities, with attendees encouraged to share the information they had learned from the day with colleagues, family and friends. Based on an assumption of an average of five household members, this means that more than 20,000 people could be reached by these activities.

In addition, donations were made to eight health centers local to Project areas to help promote AIDS awareness. These donations will facilitate outreach to even more people through the health center's patient populations.

The following photographs provide an illustration of the various World AIDS Day activities undertaken.

Dr. Moses Lester providing a World AIDS Day toolbox session at Production Operations Training Centre

Preparation for hanging the universally recognized World AIDS Day ribbon at Komo

Red ribbons were provided to children in villages around the Oiyarip/Mendi area

Toolbox session at Nogoli Camp included facts about AIDS/HIV

Workers at Nogoli Camp receiving World AIDS Day T-shirts

Community based World AIDS Day Awareness Program at Kikori, where Dr. Joe Burton, Project Occupational Health Manager, provided an awareness presentation

5.4.6 Sexually Transmitted Infections and HIV/AIDS

In 2010, Population Services International implemented a Sexual Health Training Program as part of the Human Immunodeficiency Virus (HIV)/AIDS Prevention and Control in Rural Development Enclaves Project funded by the Asian Development Bank. The Enclaves Project helps strengthen Government leadership and the implementation of strategies to contain the spread of HIV among rural populations. Feedback obtained from a Community Health worker at one of the health centers was that the Population Services International's Program resulted in very positive responses from male community members who indicated that the knowledge gained had greatly improved their relationships with their wives, had improved prior negative cultural practices and had improved communication skills. The worker indicated that the males who had participated in the training program were using the information in their outreach and counseling sessions through the Church with great success. Population Services International's Sexual Health Training Program will be implemented in the Hides area during 2011.

Plate 5.11 – Gideon, Community Health Worker at Para Health Centre

5.4.7 Respiratory Infections

The Project continues its collaboration with the IMR in the fight against pneumonia, sponsoring their upcoming research program aimed at identifying the most effective vaccine against the particular strain of pneumonia in Papua New Guinea. This research precedes the Papua New Guinean Government's planned selection of a vaccine against pneumonia in 2012.

5.4.8 Contractor Conformance

The Community Health Management team continues to track contractor performance with regard to impact management commitments related to community health.

5.5 Community Safety

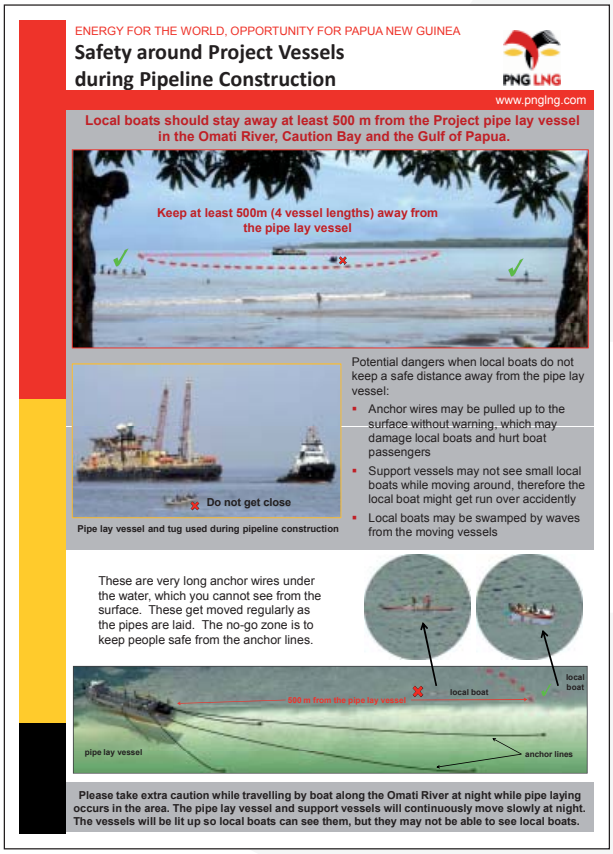
At Hides, traffic traveling on local roads includes Project trucks and passenger vehicles as well as public vehicles and pedestrians.

The Hides Landowner Committee, the Socioeconomic team and the Upstream Infrastructure contractor have agreed that a pedestrian footpath, extending from Lake Mabuli to Para School, is a priority. Having determined the path's route through consultation, a proposal has been submitted to the Project's Rapid Implementation Project team for budget approval to engage the local women's organization to clear and maintain their clan's section of track. The track will be located 5 to 10 meters (16 to 32 feet) off the road depending on topography. In addition, a temporary fence around the HGCP worksite was constructed during this quarter. The temporary fence will provide a safety barrier between the public and construction activities as works progress.

The road between the Komo Airfield Pioneer Camp and the access road to the terminal has been widened at two sections to reduce sharp, blind curves. Additionally, sign-men are posted on two narrow curves to control traffic flow.

Meanwhile, the Offshore Pipeline contractor is developing marine and river vessel routes in the Omati River to reduce the impact of marine and river vessels on the local communities in the waterways. Communities in the Kikori and Omati area have been informed about safe practices around Project vessels during offshore construction operations (refer to Figure 5.3).

Figure 5.3 – 'Safety around Project Vessels during Pipeline Construction' poster



5.6 Community Investment

The Project's community investments are intended to promote economic growth and create positive, sustainable impacts in areas such as health, education, agriculture, local economic development, women's economic empowerment, and capacity building of individuals and community institutions in the Project Impact Area.

5.6.1 Community Investment and Contributions Committee

The Project's Community Investment and Contributions (CIC) Committee and Working Group continued to be active during this quarter. They provided internal coordination, strategic oversight and approval of Project-funded community support activities. The CIC Working Group met three times and considered 22 concepts and six proposals against six criteria: impact, sustainability, strategic value, design and management, value for money and risk. Of the 22 concepts, 19 were approved and are being developed into fully scoped, budgeted and scheduled formal project proposals for CIC Committee consideration.

Rapid Implementation Projects

Rapid Implementation Projects have a maximum value of 13,210 Kina (US$5,000) and are designed to meet small-scale needs and help build goodwill with communities. A total of 34 proposals for Rapid Implementation Projects were received and considered this quarter. Of these, 16 have been approved for implementation, and a further nine proposals will be incorporated into larger community support projects. Of the 34 Rapid Implementation Project proposals received, 16 are located in the Upstream North area, 11 in the Upstream South area and seven in the LNG plant site area. Examples of approved Rapid Implementation Projects to date include support to schools and health centers, community markets, road maintenance and sporting groups.

5.6.2 Community Development Support Plan

The Community Development Support Plan (CDSP) aims to provide opportunities for sustainable development benefits and to avoid or reduce the risk of adverse social impacts on Papua New Guinean communities during Project construction and production.

The CDSP focuses on three areas: Strengthened Social Resilience, Local Economic Development and Community Capacity Building and Partnerships. Each CDSP investment initiative is approached as an independent project and subject to review and approval by the CIC Working Group. Table 5.2 describes the CDSP activities during this quarter.

Table 5.2 – Overview of Community Development Support Plan initiatives

Initiative	Description	Activities Completed
Strengthened Social Resilience		
Support to Functioning Schools accross Project Impact Area	Strengthen school management, promote the value of education, teacher training, and upgrade of facilities.	• Project design approved and scope broadened to include Kutubu, Kikori, and LNG plant site villages. School profiling started. • Elementary and primary school profiling completed. • Activities in Hides/Komo identified, prioritized and commenced.
Strengthening Village Courts	Support the Papua New Guinean Government to strengthen village courts' in the Project Impact Area.	• Terms of reference agreed for partnership with the Papua New Guinean Government to assess the operational status of village courts in Hides/Komo, Kikori and LNG plant site villages. • Assessment in LNG plant site villages completed. • Arrangements in place for assessment to occur in Hides/Komo and Kikori in February 2011.
Traditional Story Writing Competition	Traditional story writing competition for students in grades three to ten. Winning stories will be published, preserving them for the future.	• Project design completed. • Competition to be launched through schools at beginning of school term in February 2011.
'Toea' Book Series	Two children's book series to be developed, printed and distributed in both the Project Impact Area and wider areas of Papua New Guinea. Series one (6 books) is on Papua New Guinea and its culture. Series two (5 books) on Project-community interface issues, such as road safety and health.	• Project design completed. • Pilot book developed, printed and distributed in Project Impact Area. • Feedback collected from students, teachers, and Government departments. • Endorsement of pilot book and series received from the Minister for Community Development, Papua New Guinean Government Department of Education, and the Office of the Prime Minister.
Local Economic Development		
Entrepreneurial Support	Support small business development, at the community level, possibly including access to financing, skills training and mentoring.	• Ongoing project design. Terms of reference agreed. Discussions with potential partners initiated. • Arrangements in place for design mission to occur in February 2011.
Increase Local Food Supply to Camps	Assist local communities to increase the supply of fresh food to camps.	• Draft project design completed including stakeholder consultation with farmers, agricultural agencies, training colleges, Lancos, banks, camp managers, and other interested parties. • Implementation to start in January 2011.
Omati Nursery	Support to Omati Delta Women's Association to increase food security and income generation. Support includes skills training and a nursery.	• Project design completed. • Multi-partner workshop held in December. • Omati Delta Women's Association needs and project objectives were identified and operating and marketing strategy, partner roles and responsibilities defined.
Poultry Production (Hides/Komo)	Increase capacity of local training college to supply day-old chicks and support to communities to establish production units.	• Project design underway. • Discussion with potential partners initiated.
Community Capacity Building and Partnerships		
Community Entry and Awareness	Provide information to communities on the CDSP, its principles and approach.	• CDSP community entry and awareness completed in the Project Impact Area including 120 villages, 33 schools, 13 health facilities, 48 community and faith based organizations and three non-government organizations.
Community Mapping	Undertake community mapping to understand existing structures and networks and identify 'change agents'.	• Community mapping completed in 34 Wards (95 villages) of the LNG plant site, Kutubu/Moran and Kikori regions. • Reporting of findings to communities commenced. • Assessment of women's groups in Kutubu/Moran area completed.
Facilitate Community Groups to Draft and Implement Development Plans	Support community groups/committees to be effective in responding to community development problems. Activities may include; leadership training, participatory community visioning and planning, coordinated planning among villages with common development challenges and providing links with local level government in developing and implementing plans.	• Visioning activities started at the LNG plant site villages with community leaders beginning to organize themselves into representative governance committees. • Facilitated the formation of three regional women's groups out of 18 local groups in Kutubu/Moran. • Eight out of ten Ward Development Committees established in Kikori region. • Due to lack of traction at the community level in Hides/Komo, the current strategy is to engage with communities through the schools and the school boards.
In-Service Training for Local Level Government	Support the Government of Papua New Guinea to train local level government officials on community development planning.	• Project design underway. • Discussions with the Government of Papua New Guinea and other stakeholders initiated.

5.6.3 Strategic Community Investments

Health/Community Support

In collaboration with the IMR and the University of Papua New Guinea, the Project has fully funded a Health Sciences Scholarship and Fellowship Fund to assist 17 students annually with internships, as part of their Honors and Masters studies.

Meanwhile, at the Cheshire Homes and City Mission, which are both located in Port Moresby and serve people with disabilities, homeless children and abused women, the Project continues working with local contractors to assess maintenance requirements. Maintenance work to address health and safety needs at these facilities is expected to begin early in 2011.

Detailed design work on a proposed replacement of the 216 meter (709 foot) footbridge across a large river near Lea Lea Village also continues. Engineers have developed a detailed Safety and Serviceability Assessment Report of the Lea Lea footbridge (refer to Figure 5.4 and Figure 5.5) and once the design and costings work is complete, Project approval will be sought to proceed. If approved, it is anticipated that the bridgework will be undertaken by workers from the local villages.

Figure 5.4 – Diagram of proposed Lea Lea footbridge replacement section

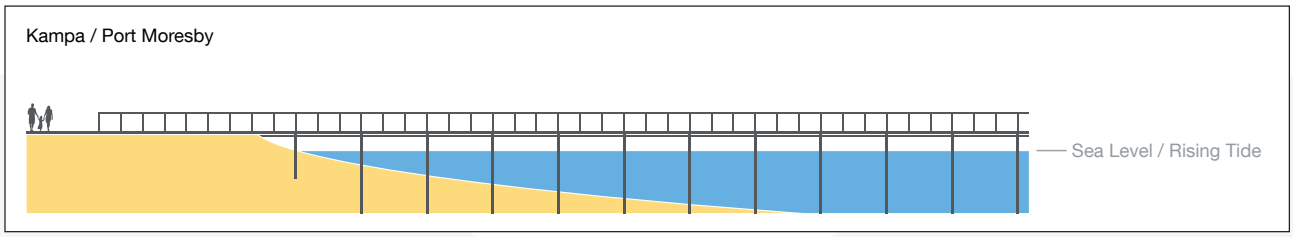
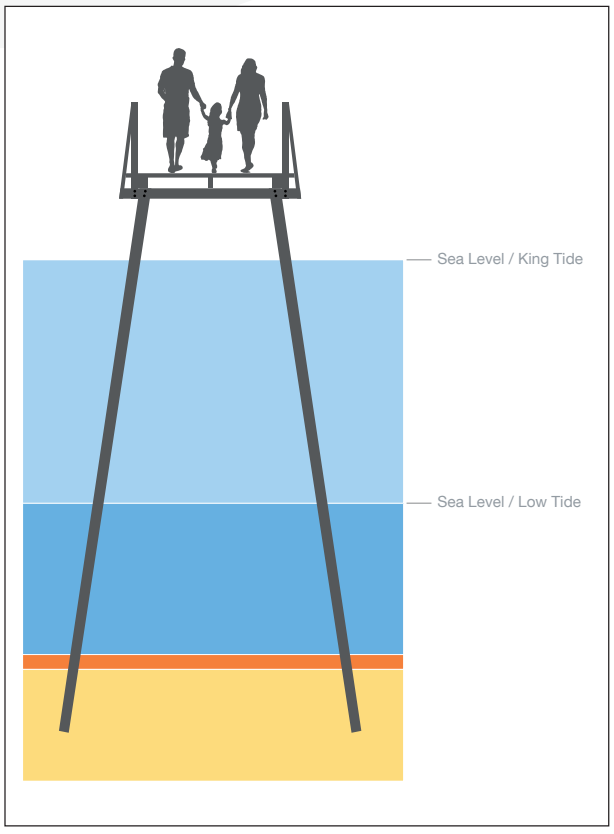


Figure 5.5 – Cross-section diagram of proposed Lea Lea footbridge replacement



In addition, the Project has provided 132,100 Kina (US$50,000) to Radio FM100 for the purchase and installation of a 300-watt radio transmitter at Mendi. This will deliver a service to the surrounding communities and be a valuable tool for the Project to broadcast information about Project activities, advise communities of upcoming meetings and promote employment and business opportunities.

Plate 5.12 – FM100 signing ceremony. From left Reuben Kautu, CEO Kalang Advertising, Peter Graham, Managing Director, Esso Highlands Limited and Isaac Joseph MP, Member for Mendi

Women's Economic Empowerment

The Project continues to support programs that help empower women to drive positive economic change in their communities. In October, the Project nominated six Papua New Guinean women with leadership roles in non-profit organizations and women's associations to attend a month-long training program in Jakarta, Indonesia, focused on entrepreneurial and leadership skill development. The program was conducted by the global non-profit organization, the Centre for Development and Population Activities, and supported by the ExxonMobil Women's Economic Opportunity Initiative, which have partnered since 2005 to train female leaders in advancing their economies.

In November, the Project also sponsored the 'Powerful Voices' photographic exhibition at Parliament House. Displayed for the arrival of US Secretary of State, Hillary Clinton, the exhibition showcased health and violence issues faced by Papua New Guinean women through their own eyes.

Later in the month, the Project sponsored the Department of Community Development's – Walk Against Violence Against Women, and the Coalition for Change's annual breakfast in recognition of the International Day to Eliminate All Forms of Violence Against Women.

In December, the Project approved a three-year support plan for the Urban Youth Employment Program, led by the National Capital District and supported by the World Bank. This Program provides young, at-risk women and men in the National Capital District with basic training to increase their employability, followed by 'on the job' training during temporary, paid employment with public, private and non-profit sector organizations. At the end of the temporary employment period, employers have the option of hiring them as regular workers. The Program's design includes a number of elements to ensure the participation of young women.

5.6.4 Volunteer Programs

Coinciding with International Volunteer Day on December 5, over 120 Project workers and their families volunteered their time over four days for painting and gardening projects at Caritas Technical Secondary School in Port Moresby. Operated by Korean nuns, the school provides high quality education for girls and teaches village children to read and write.

Plate 5.13 a-b – Volunteers plant Bougainvillea at Caritas Technical Secondary School

6.0 COMPENSATION AND RESETTLEMENT

The Project takes a consultative approach working closely with impacted communities on compensation and resettlement.

6.1 Compensation

The Project's Socioeconomic team continues to negotiate In-Principle Compensation Agreements for land access and environmental and improvement damages. Improvement damages are damages to food gardens and economic crops, man-made structures (such as fences, drains and dwellings), naturally occurring bush, vegetation, birds, animals or fish, or negative effects on the quality of water resources, and compensation is paid for damages.

Since the Project started, 73 In-Principle Compensation Agreements have been signed by landowner representatives and Project management. No new agreements were signed during this quarter as no new land access requests were made to the Socioeconomic team.

The Socioeconomic team has also been focusing on the development of a Compensation module to be incorporated in the Project's IMS during 2011. This module will help manage all future compensation payments, as well as assist in generating statistics and reports on past and future payments.

Compensation payments are scheduled to take place in early 2011. They will consist of one-off payments for initial and surface land damages, as well as one or more installments of yearly deprivation payments.

6.2 Resettlement

The Project is committed to minimizing the need for population resettlements as a result of Project activities, and to conducting necessary resettlement activities in accordance with international best practice, as defined by International Finance Corporation performance standards on social and environmental sustainability and the laws of Papua New Guinea. The Project's approach to resettlement is to give physically and economically displaced people the opportunity to, at a minimum, restore their livelihoods and standards of living. Resettlement may be due to:

Plate 6.1 – Presenting crafts at a local market

- Physical displacement, involving the loss of shelter and assets resulting from acquisition of land associated with the Project that requires those people affected to move to another location.

- Economic displacement, involving the loss of income streams or means of livelihood resulting from land acquisition or obstructed access to economic resources (land, water, forest) resulting from the construction or operation of the Project or its associated facilities.

During this quarter the Project's Socioeconomic team focused on the resettlement process in which:

- The clan owners of land required for the Project are identified and an In-Principle Agreement is negotiated with them.

- Families required to resettle are identified, the locations of their houses and gardens are mapped, their assets are accounted for and appropriate compensation is calculated. Information collected is used for writing Resettlement Action Plans, which specify the procedures that the Project will follow and actions it will take to mitigate adverse effects, compensate losses, and provide development benefits to persons and communities affected by the Project.
- Compensation is paid and houses are dismantled by the owners with field verification.
- Resettled families are assisted to re-establish houses and subsistence gardens, and provided with cash and rations until their subsistence production has recovered to what it was before they moved.
- Resettlement-affected families are advised of options for investing their compensation money.
- The value of commercial activities is assessed and business opportunities discussed with clan-based companies.

Plate 6.2 – IESC discussing resettlement

This quarter commenced with a visit by the Lender Group's Independent Environmental and Social Consultants (IESC) which gave the Project an opportunity to discuss progress as well as constraints and to identify methods to address issues that could impact on compliance with Lender Group requirements. Topics of discussion included the timing of submission of Resettlement Action Plans to the Lender Group, the valuation of agricultural assets for compensation and the approach taken to assess and compensate for loss of community infrastructure.

6.2.1 Milestones and Progress

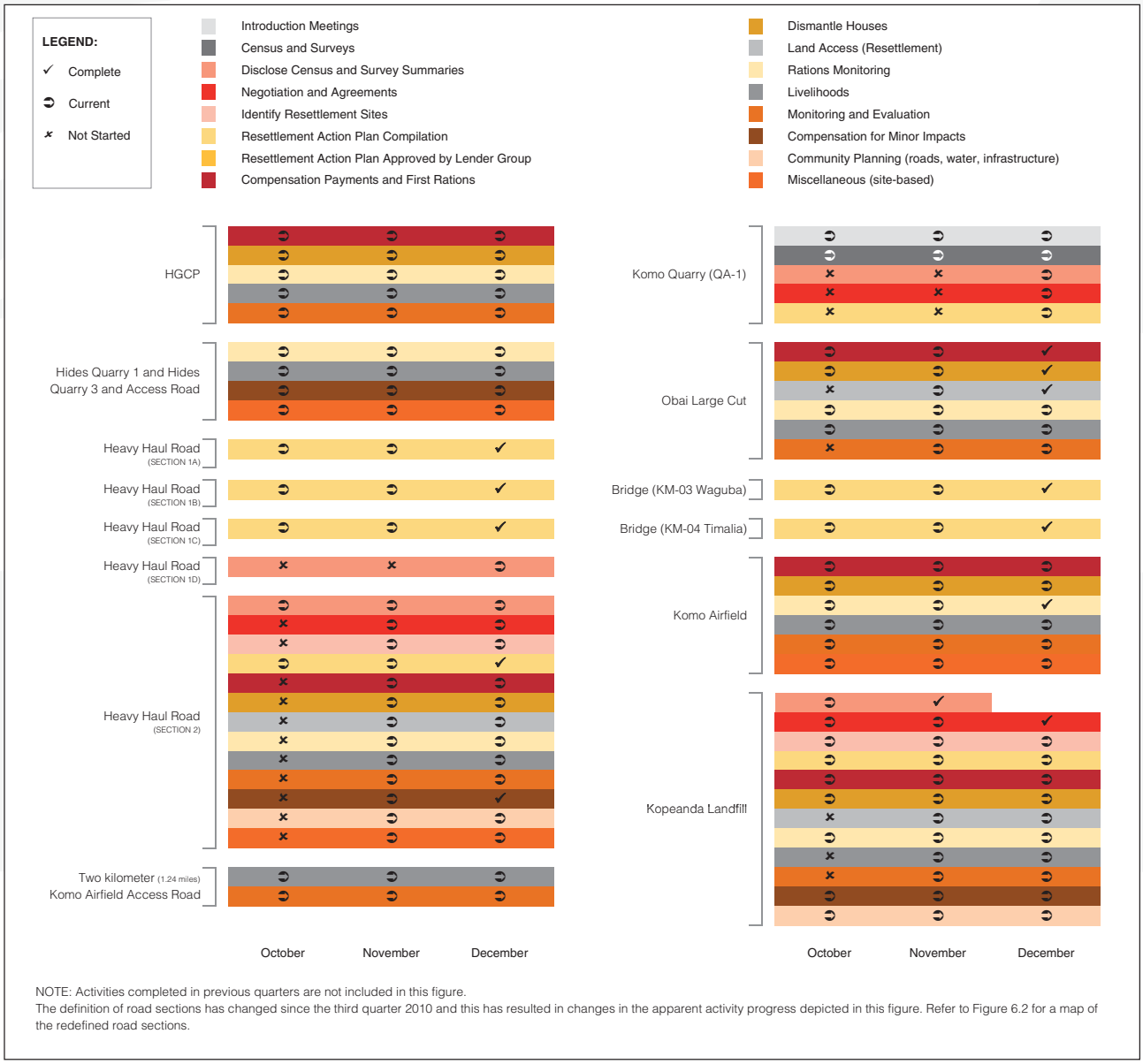
Significant progress was made on the Project's resettlement activities during this quarter, with several milestones achieved and many activities nearing completion. Resettlement activities occurred in 15 locations, but concentrated on the Komo Airfield, the HGCP site, the road to the Hides quarries and the Kopeanda landfill and waste management site.

Activities included preliminary census and land-use surveys, introductory meetings and compilation of Resettlement Action Plans in new Project areas requiring resettlement, implementation of Resettlement Action Plans through payment of compensation and physical relocation and implementation of Livelihood Restoration Plans, and monitoring and evaluation, in areas where resettlement has already commenced.

Despite efforts to minimize resettlement, more than 140 families were resettled during this quarter, mostly without issues being raised. Some of the concerns raised related to difficulties in the length of time it took to set up interest bearing deposit accounts into which compensation payments were made by the Project and difficulties with accessing the accounts due to the lack of local banking facilities. Individuals who had concerns about their resettlement package, or who thought they should qualify for a resettlement package when they did not, frequently affected work schedules, particularly at Komo. The Socioeconomic team met with these individuals to resolve their concerns. The team will establish offices at Komo and Hides so that individuals will be able to register any issues they have about their resettlement packages and have them addressed, without causing work stoppages.

An overview of the status of key resettlement activities is provided in Figure 6.1.

Figure 6.1 – Status of key resettlement activities



NOTE: Activities completed in previous quarters are not included in this figure.
The definition of road sections has changed since the third quarter 2010 and this has resulted in changes in the apparent activity progress depicted in this figure. Refer to Figure 6.2 for a map of the redefined road sections.

6.2.2 Trends, Highlights, Challenges and Achievements, Lessons Learned

Key activities at Project sites during this quarter are described below.

Komo Airfield: By the close of the fourth quarter, all outstanding compensation had been paid to relocated residents, all houses had been dismantled and rations deliveries to Komo households had been completed. Livelihood restoration activities included:

- Monitoring new gardens to evaluate establishment, allow comparisons with production from the replaced garden and assess whether household subsistence requirements were being met.
- Introduction and propagation of new sweet potato *Ipomoea batatas* varieties, including virus free planting material.
- Commencing training courses for women.

Issues related to houses built speculatively in the Komo Airfield site and absentees are being addressed. Absentees are landowners who were involuntarily displaced from their land during inter-clan conflicts around 10 to 12 years previously and did not subsequently return. Consultation and negotiation is underway with the Komo Absentee Committee to get agreement on legitimacy of claims of new absentees arriving in the area. Appropriate means to resolve these issues (including identification of appropriate additional compensation payments and recipients) are also being discussed.

Plate 6.3 a-b – (a) Single house and garden at Komo (b) Houses at Komo

Komo Access Road: A retrospective Resettlement Action Plan was submitted to the IESC during their site visit in early October. Rations delivery to populations concluded during this quarter and outstanding rations payments were converted into cash in response to difficulties experienced with rations delivery in the previous quarter. The package offered to households was increased to bring it in line with what is being provided to households in other Project areas (notably Hides Quarry 1 and Hides Quarry 3, Hides Quarries Access Road and the Heavy Haul Road).

Planning also began regarding access around the Komo Airfield, which will include construction of an access track around the southern part of the site.

HGCP: Housing agreements were concluded with all outstanding households, except one, with cash and account payments completed and all but two houses dismantled. Separate trade store agreements were also reached with the final four storeowners in the affected area. Livelihood restoration activities included monitoring gardens and launching courses for women to enhance their basic skills, for example, in food preparation and cooking.

Community planning initiatives included identifying a new site for a market (as areas used for market activities are within the HGCP site) as well as planning for a community access road around the HGCP site. In addition, a local women's group was identified to clear and maintain footpaths along existing roads as agreed with the HGCP Resettlement Committee.

Plate 6.4 – Produce being sold at a local market

Significant progress was made on the construction of the first two homes for house resettled residents from the HGCP site. These homes are built with the assistance of building advisors who provide advice and training to local carpenters in the construction of houses. Timber is sourced from the HGCP area in accordance with the agreement with the HGCP Resettlement Committee. The cost of labor and additional inputs is covered by funds from the compensation package, which households selected to allocate to house construction.

Plate 6.5 – Construction of a new house at the HGCP

Heavy Haul Road: Activities included completion of a Resettlement Action Plan for the entire Heavy Haul Road following an earlier revision to the route intended to minimize resettlement. Agreements have been completed, all payments made, and six houses dismantled in the section south of Timalia known as the Obai large cut area. Agreements and payments were also concluded, and houses dismantled, for households along the section south of Waguba to Komo Airfield, which was identified as the first priority for Komo Airfield construction. Negotiations related to a section of planned road to the north of Waguba are also underway.

To assist with resettlement management administration, reference to the Heavy Haul Road sections has been revised since the third quarter 2010. Figure 6.2 outlines the new road sections.

Figure 6.2 – Revised road sections along the Heavy Haul Road

Landfill: Resettlement activities in the Kopeanda Landfill area can be considered a particular highlight for the fourth quarter. Following the IESC's visit in early October, a Resettlement Action Plan was completed, agreements were signed with all impacted households, all payments were completed, and all houses were dismantled by mid-December. All households were supplied with temporary housing materials, mosquito nets and garden tools, and rations delivery commenced.

Hides Quarries: All payments were completed for households inside Hides Quarry 1, Hides Quarry 3, and along the Hides Quarries Access Road (between the HGCP and the quarries). Mudslides following the commencement of construction in this area placed an additional four houses at risk of being impacted and these were also relocated during this quarter. Community planning initiatives with the Hides Quarries and Hides Quarries Access Road resettlers to identify solutions for impacted water supplies are also underway.

Komo Quarry: An additional quarry site requiring the resettlement of approximately 13 households was identified in November. Disclosure and census activities were completed, preliminary negotiations commenced with affected households, and compilation of a Resettlement Action Plan was initiated.

Pipeline camps and components: Although no physical resettlement will be required for the southern portions of the pipeline (as economic displacement will occur as a result of impacts on peoples' gardens and land) a series of Community Resource Plans summarizing potential impacts on community resources (for example plants, trees, hunting grounds and access routes) will be developed for the entire pipeline. The first Community Resource Plan covering the Omati to Kaiam section was completed in mid-December.

Wellpads: Compilation began on the Resettlement Action Plan required for the proposed pipeline along the Hides Ridge (known as the spineline) as well as for the Wellpad Access Road due to economic displacement.

Plate 6.6 – Local landowner

7.0 WORKFORCE

More than 4,500 Papua New Guinean citizens were employed on Project activities at the end of December, increasing from the 1,040 employed at the end of March 2010. As the Project's workforce grows, workforce development, training and health initiatives are also being scaled up.

7.1 Development

The Project aims to increase the number of Papua New Guinean employment opportunities and build national worker skills over the life span of the Project, in accordance with the National Content Plan.

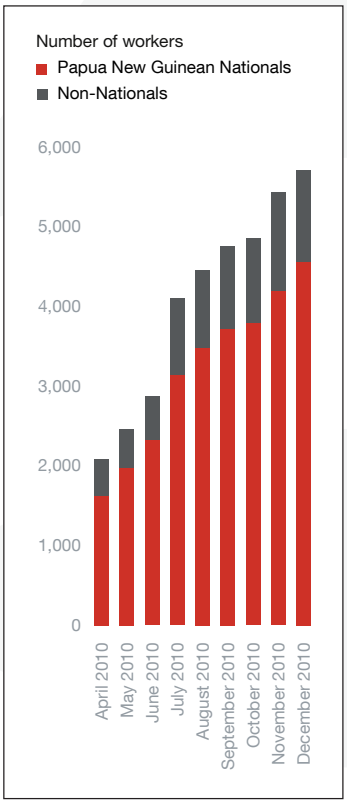
During this quarter, the Project's workforce grew by a further 20 percent above the previous period, as shown in Figure 7.1. This increase is a result of early construction phase activities expanding in complexity and scale combined with the establishment of new worksites, particularly in the Upstream areas.

More than 4,500 Papua New Guinean citizens were employed on Project activities at the end of December. This represents 80 percent of the Project's total construction workforce. More than 4,000 of these workers were sourced through 14 Lancos.

In addition to the recruitment of Papua New Guinean citizens for Project construction-related activities, the Project continues to employ Papua New Guineans in a variety of Project support roles primarily located in Port Moresby. These roles include administration, procurement, logistics, ground transport and security, as well as public and Government affairs, human resources and accounting.

During this quarter, the Project also began a program to recruit young engineering professionals for future roles within the Papua New Guinea operations. In October, two Papua New Guinean engineers (one female, one male) were employed as trainee drilling engineers. They have commenced an initial 18-month development program in Melbourne, Australia undertaking practical and classroom training in drilling engineering. As part of this program they will also attend training in Houston, Texas.

Figure 7.1 – Construction workforce



Joshua Tengdui

Joshua began his career working in Brisbane, Australia with the contractor responsible for the Hides Gas Production Facilities and Hides Wellpads. He was then appointed as a Field Construction Engineer in the Hides area, responsible for managing and preparing the daily work activities log and status reports. He participated in daily site inspections, assisted with on-site coordination and interface activities and supported daily safety meetings (including serving as a translator when needed). Joshua's capabilities and qualities have earned him a highly sought after permanent position with Esso Highlands Limited. In early 2011, Joshua has the opportunity to move to Melbourne, Australia to join Esso Highlands Limited's 18-month Graduate Engineer Development Program. He will then have the opportunity to return to Papua New Guinea in mid 2012 to participate in the commissioning and start-up of the completed Project facilities as a permanent Esso Highlands Limited employee.

Esso Highlands Limited's engineering graduate recruitment campaign is an annual program that will provide an ongoing supply of engineering resources who will work in Esso Highlands Limited's operations after the Project is commissioned. Joshua is one of six graduate engineers accepted into the Program and he is looking forward to the career opportunities that it brings.

"I am extremely excited for the opportunity to work for ExxonMobil and it will be an experience that will allow me to develop a long lasting career with the company and become a member of a multinational team contributing to the company's prosperity," he said.

A further six Papua New Guinean engineering graduates are scheduled to begin their graduate program in the first quarter 2011 in Melbourne. They will be trained in roles including pipeline, subsurface, corrosion, machinery and facilities surveillance engineering, with experience being gained in both onshore and offshore facilities.

In addition to the growth of the overall Project workforce, the experience and development of Papua New Guinean citizens continues to grow. Twenty-two Project personnel recruited as part of a Graduate Training Development Program have continued their activities on the Project, taking on key roles in engineering, business and finance administration. Recruiting is almost complete for a second intake of graduates to be deployed in various parts of the Project.

7.2 Workforce Training

During this quarter, approximately 100 Project personnel in Port Moresby, Moro and Kobalu participated in human rights training sessions.

Based on courses ExxonMobil has previously conducted in other countries and tailored to Papua New Guinea's security situations, the course aims to:

- Raise workers' awareness of human rights issues.
- Demonstrate the Project's commitment to promoting respect for human rights.
- Educate workers on Esso Highlands Limited policies, practices and procedures.

Meanwhile, to address a shortage in qualified construction workers in Papua New Guinea, and to maximize long-term employment opportunities for Papua New Guinean citizens, the Project is providing training facilities at several locations within Papua New Guinea.

An important milestone was achieved in November when the Project officially opened the Port Moresby Construction Training Facility located within the existing Port Moresby Technical College site. The opening ceremony was attended by senior Papua New Guinean Ministers, diplomatic representatives of participating nations, and senior management representatives from Exxon Mobil Corporation, Esso Highlands Limited and participating companies.

The Port Moresby Construction Training Facility represents a 150 million Kina (US$57 million) investment. It will train up to 1,000 Papua New Guinean workers per year during the Project's construction phase. When the Project's workforce training programs conclude, the Port Moresby Construction Training Facility will be handed over to the Papua New Guinean Government to become a permanent and integral part of the Port Moresby Technical College.

Led by SkillsTech Australia, the Port Moresby Construction Training Facility programs conform to the Australian Qualifications Training Framework which provides graduates with qualifications that are recognized throughout the world.

Plate 7.1 – Port Moresby Construction Training Facility official opening ceremony

"This occasion is a milestone for the Project. The Port Moresby Construction Training Facility will play a critical role in building a skilled Papua New Guinean construction workforce. Its graduates join the growing Project workforce."

Mr. Peter Graham, Managing Director
Esso Highlands Limited

Training at the facility is conducted by Papua New Guinean nationals, with 16 Papua New Guineans trained in Australia specifically for the Port Moresby Construction Training Facility.

Since the start of operations during this quarter, the Port Moresby Construction Training Facility has reached full training capacity of 240 trainees on-site at any one time, with 80 trainees graduating each fortnight.

Plate 7.2 – Graduates receiving their certificate in the Safety, Induction and Mechanical and Piping Training Program

Plate 7.3 – Practical lesson in grinding at the Port Moresby Construction Training Facility

The Port Moresby Construction Training Facility joins other Project-funded training facilities which are intended to develop a strong Papua New Guinean workforce. A similar but smaller vocational training center to support construction of the HGCP is under construction at Juni. The Juni Construction Training Facility is expected to commence operation in the second quarter 2011 and will have a capacity of 90 trainees at any one time.

Meanwhile, the Production Operations Training Centre in Port Moresby which was opened in September, 2010, is training 75 men and women who will be responsible for plant operation and maintenance during the production phase of the Project.

The following sections provide further details about the status of training programs underway.

Plate 7.4 – Classroom lesson at the Production Operations Training Centre

7.2.1 Construction Training

Training of Papua New Guinean citizens for various roles and developing skills in support of construction activities are provided in two areas:

- The Project provides specific technical skills training with certification to an internationally accredited standard.
- The contractors provide a range of training courses for their construction workers, including safety and health requirements, and cultural awareness.

Project Provided Training

The Project's training program and curriculum provides courses accredited to the internationally recognized Australian Quality Training Framework. The program offers training for Papua New Guinean citizens in a variety of construction-related skills including civil and building, mechanical/piping, electrical and instrumentation, scaffolding, painting, insulation and heavy vehicle driving. All construction training courses include a significant component of safety training, for which all trainees can attain accredited certification. Training courses are delivered by Papua New Guinean trainers.

Trainee recruitment continues from the four villages near the LNG plant site (Papa, Lea Lea, Porebada and Boera). Since training commenced in April, 2010, 355 male and 84 female trainees have graduated with certificates in civil and building construction, scaffolding, or mechanical/piping. A total of 160 trainees are undergoing training, with the next intake of 80 trainees scheduled to commence at the beginning of 2011. Recruiting efforts across the four villages have resulted in an increase in the number of females applying for construction trainee roles. At the end of December, there were a total of 204 people awaiting commencement of training. Of those people, 85 were female candidates.

The Project has also conducted monthly training programs for Socioeconomic coordinators and officers. These programs provide up-to-date information to ensure compliance across all areas of Socioeconomic operations. The training covers topics such as community health and safety, business practices and law. The Socioeconomic team has also had considerable training on the Project's IMS to support their work with recording stakeholder concerns. In addition, the Socioeconomic team are being trained in first aid and will be provided access to other e-learning opportunities.

Contractor Provided Training

Contractors continue to provide on-site construction training to help develop the skills of Project workers and drive greater safety awareness. During this quarter, a variety of training courses were completed, these included, but were not limited to: Health and Hygiene, Site Safety, Site Security, Defensive Driving, Cholera Awareness, Camp Catering, Civil and Building Construction Helper, Use of Power Tools, Heavy Equipment Operator and Pipe Laying Skills.

7.2.2 Operations and Maintenance Training

Operations and Maintenance trainees completed year-end assessments focusing on their academic performance, demonstrated behaviors and their English language skills. All performed very well and exceeded the required standards that had been set for each of these dimensions.

Plate 7.5 – Student from the Production Operations Training Centre distributing gifts at the Port Moresby General Hospital

Plate 7.6 – Production Operations Training Centre students

Trainees also participated in the Project's community volunteer programs, assisting a local school with upgrading a dedicated learning center for young children from a nearby settlement. Before Christmas, the trainees raised their own funds to buy gifts, which they distributed to children, at the Port Moresby General Hospital. They also cheered up sick children with carols and jokes.

For the first quarter 2011, the trainees will focus on completing their Foundation Skills Training and beginning Basic Oil and Gas Training before completing 12 months of Advanced Skills Training overseas. This training will enable them to return to Papua New Guinea to work on the newly constructed facilities.

7.3 Health Management

Demand has continued for post-mobilization health activities including camp commissioning inspections, medical clinic inspections and Malaria Control Program (MCP) field assessments.

A second X-ray unit to support the Hides area for both pre-employment medicals and tuberculosis screening was shipped during the fourth quarter from Lae to its temporary location at the Juni Construction Training Facility. Strong utilization of the Kopi X-ray unit, delivered in the third quarter 2010, resulted in over 190 X-rays taken for pre-employment examinations, tuberculosis screening and general diagnostic support.

The Project Health team also supported response to a number of serious illness events for the quarter, including two gastro-intestinal outbreaks at Upstream worksites (see Figure 7.4).

7.3.1 Pre-Mobilization Health Support

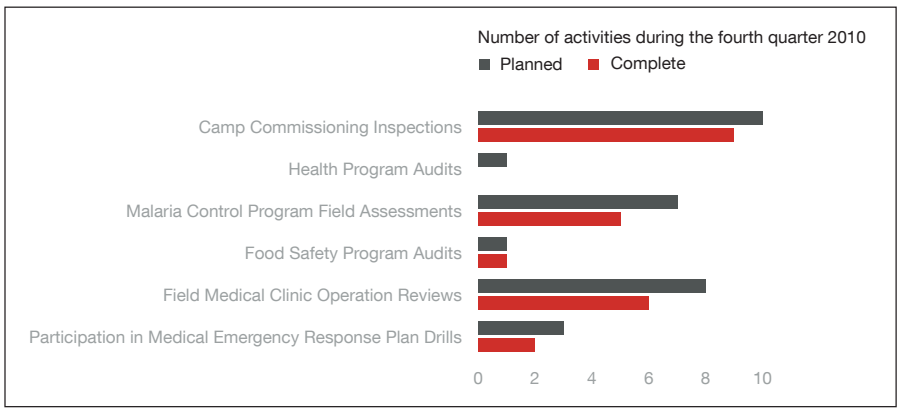
While the focus of Project health activities has shifted to post-mobilization field support, Health Plan reviews continued for a number of worksites including the offshore pipeline, drilling, HGCP and the Northern Logistics Route.

7.3.2 Post-Mobilization Health Support

The Project's Post-Mobilization Health Support Program is underpinned by the Health team's work monitoring and measuring leading indicators, for example water quality, which can provide advance warning of health conditions. Post-mobilization health activities fell slightly below the 90 percent target for the quarter. This was due to significant demand for support services to meet additional Project needs such as response to two outbreaks of gastroenteritis at Upstream facilities. Five MCP field assessments were completed and six medical clinic operation reviews were achieved (refer to Figure 7.2).

Auditing and camp inspections is anticipated to increase in the first quarter of 2011.

Figure 7.2 – Key planned versus completed post-mobilization health activities



7.3.3 Camp Commissioning Inspections

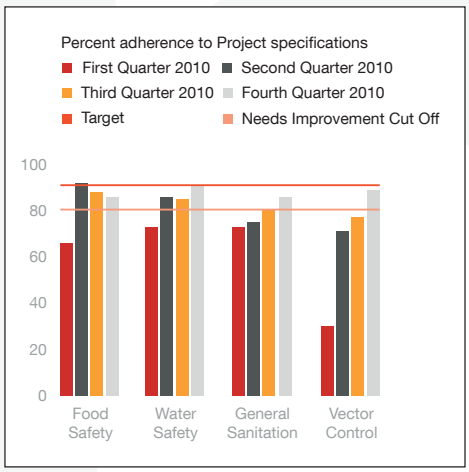
The Project employs in-country health advisors to monitor Project health requirements and manage its camp commissioning inspection program. The aim of this inspection program is to minimize the potential for diseases and illnesses. This will be achieved by identifying areas for improvement in advance of camp start-up, and implementing a best practice approach to food safety, water quality, general sanitation and vector control. For the fourth quarter, nine Category 1 and 2[1] sites and one hotel utilized by the Project were inspected, utilizing standardized inspection score sheets to ensure a consistent approach.

Category 1 and 2 results (Figure 7.3) show the following trends:

- Ongoing sanitation improvement at camp sites due to the maturity of camp management procedures. Room for improvement was identified in cleaning programs and associated staff training.
- New camp start-up continues to prove challenging in the area of record keeping required by the food safety program.
- Strong improvement in water safety across camps due to an improved understanding of Project water safety requirements.
- Significant improvement in vector control performance.

Plate 7.7 – Larval sampling for the presence of malaria carrying mosquitoes at Moro B Camp

Figure 7.3 – Category 1 and 2 site cumulative adherence to Project specifications by public health category



7.3.4 Lagging Indicators

The Health team captures and records a range of lagging indicators including health incident numbers. Non-stewardable (non-work-related) health incidents are also reported by contractors and included in incident numbers (refer to Figure 7.4).

Non-work-related, work-related and community medevac rates for this quarter show a decline from the previous quarter's results.

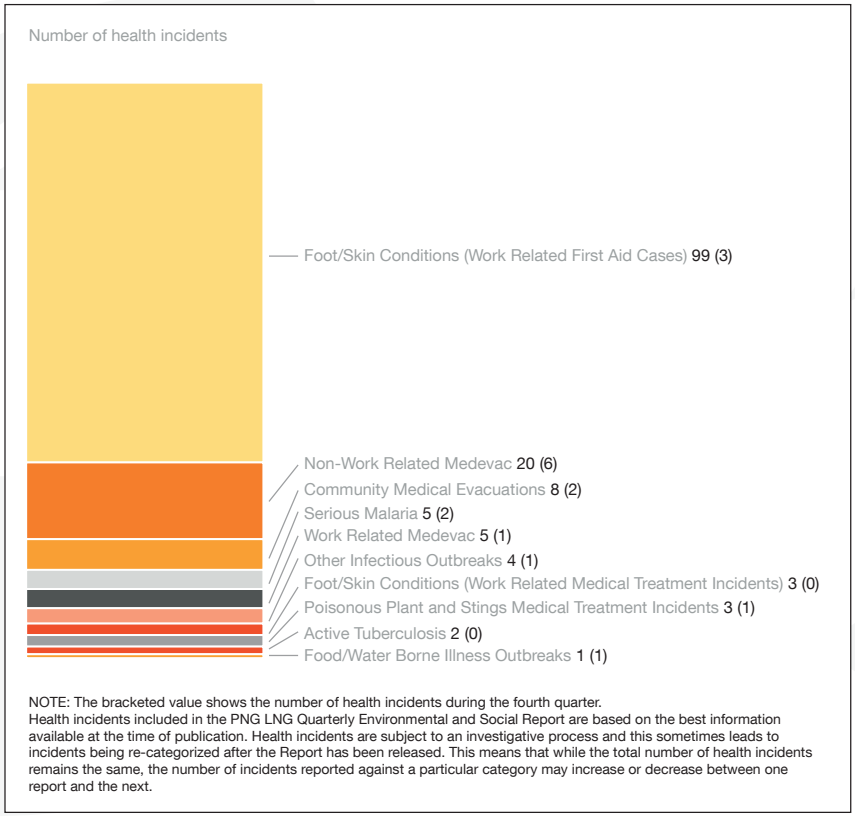
Two serious malaria cases (in addition to three which occurred during the third quarter 2010) prompted a review of the Project's MCP. The review identified new actions to be implemented to strengthen the Program including:

- Increased availability of personal insect repellents in areas such as toilets, communal areas and other prominent locations.
- Completion of a Highlands Malaria Risk Review.
- Stronger promotion of personal bite prevention on non-work time.
- A review of the Malaria Chemoprophylaxis Compliance Program (MCCP) enrolment status of small contractors.

[1] Category 1 – Sites established and managed by the Project or contractor.
Category 2 – Third party facility completely utilized by the Project or contractor.

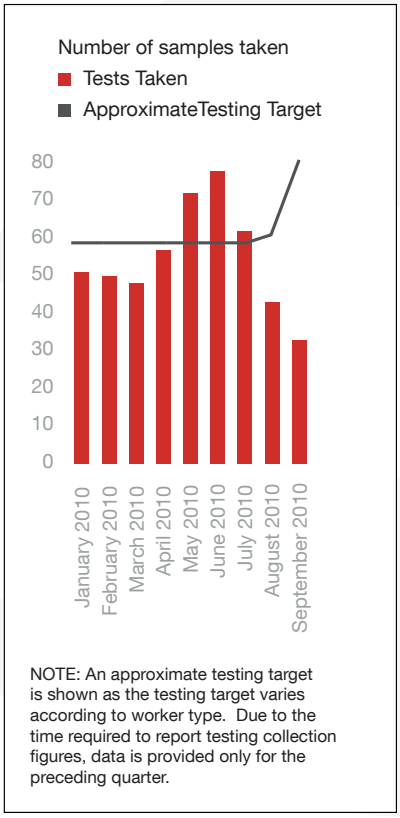
The cholera outbreak in Papua New Guinea continued with four cholera cases in national workers (non-camp residents) at Port Moresby sites and one case in an Upstream worker (residing at a local private lodge). A continued emphasis on case identification and site hygiene controls has ensured that a cholera outbreak has not occurred at any Project worksite-to-date.

Figure 7.4 – Contribution of health incidents year-to-date



NOTE: The bracketed value shows the number of health incidents during the fourth quarter.
Health incidents included in the PNG LNG Quarterly Environmental and Social Report are based on the best information available at the time of publication. Health incidents are subject to an investigative process and this sometimes leads to incidents being re-categorized after the Report has been released. This means that while the total number of health incidents remains the same, the number of incidents reported against a particular category may increase or decrease between one report and the next.

Figure 7.5 – MCCP testing target results



NOTE: An approximate testing target is shown as the testing target varies according to worker type. Due to the time required to report testing collection figures, data is provided only for the preceding quarter.

7.3.5 Malaria Control Program and Malaria Chemoprophylaxis Compliance Program

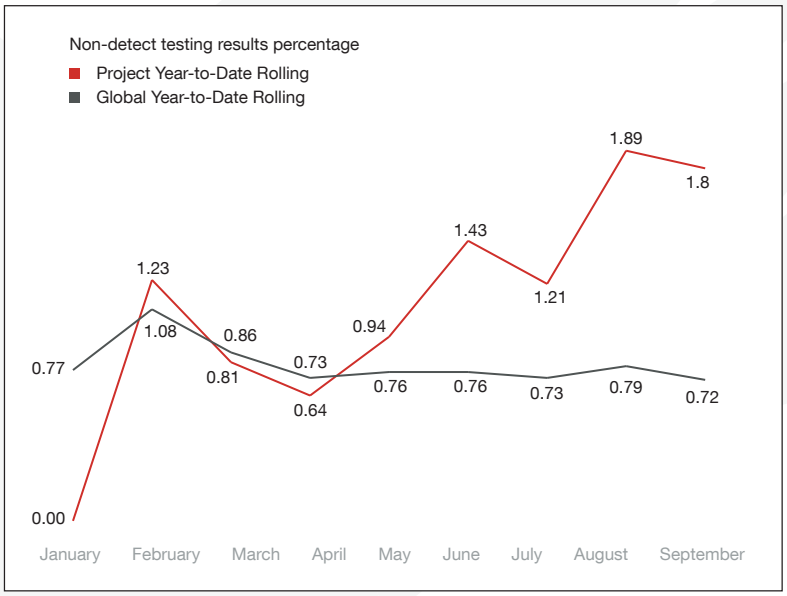
During this quarter, continued improvements in data capture have enabled targets for MCCP testing to be redefined to more accurately reflect the total number of residents, rotators and business travelers on the Project as shown in the revised target line in Figure 7.5. A gap in tests taken compared to the target through the months of August and September, 2010 was the result of contractors submitting late worker lists, along with logistics delays due to the relocation of the testing center. Preliminary data from this quarter shows improvement towards the target.

The MCCP non-detect result remained a focus for this quarter (refer to Figure 7.6). Numerous initiatives were undertaken to reinforce the importance of appropriate chemoprophylaxis as a barrier to malaria including:

- Follow-up with contract owners to confirm the MCCP enrolment status of their contractors.
- Working directly with contractors to develop MCCP specific improvements.
- Mobilization of a Project health advisor to Port Moresby to commence Project MCP support.

Five MCP field assessments were completed for the quarter as shown in Figure 7.7. Overall results have shown little improvement from the previous quarter which is attributable to a number of outstanding close-out plans. To improve the overall Project rolling average result, focus has been placed on ensuring close-out plans are developed and implemented in response to identified gaps in audited MCP's leading into 2011. .

Figure 7.6 – MCCP contractor non-detect results

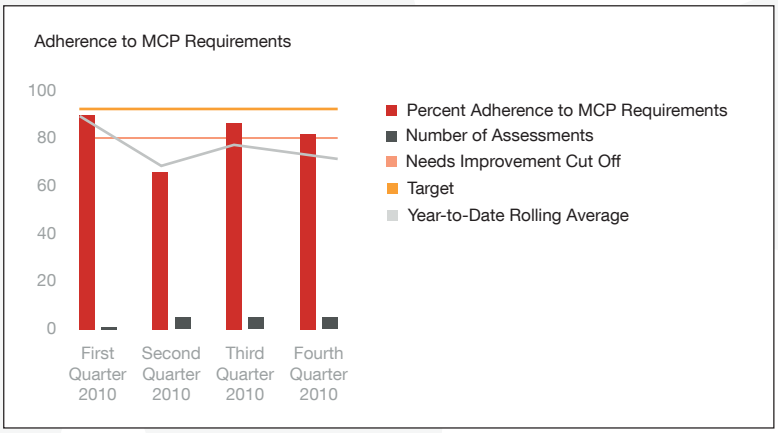


7.3.6 Strategic Initiatives

Health training and education support is a key focus for the Project Health team. As a result of the successful development of the 'Gutpela Lek' (Good Feet) training toolkits in the third quarter 2010, similar initiatives commenced with the development of two additional training packages for poisonous plants and arthropod bites and stings (such as centipedes and spiders).

In addition, supervisor training for tuberculosis control was completed in December, receiving positive feedback from the 28 attendees.

Figure 7.7 – MCP field assessment adherence to Project requirements



The second phase of the pilot program for the Medical Disease and Vector Surveillance Database was completed this quarter, with formal roll-out of the database to Project clinics to commence early in 2011. The database will strengthen disease surveillance and reporting on the Project and enable improved response to infectious disease outbreaks.

Meanwhile, the development and communication to all EPC contractors of final health reporting metrics was completed, with contractors to commence reporting on the new suite of health metrics in 2011. Health metrics capture leading indicators of Project performance in key areas such as tuberculosis surveillance, health training, water quality and contractor health inspections.

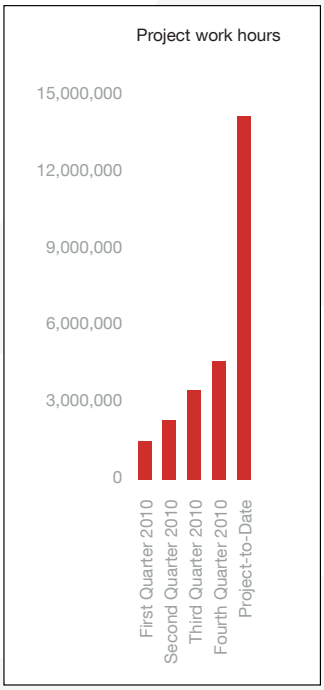
Improvement was also achieved in the closure of Project health risk assessment action plans, with the percentage of action items closed-out moving from 66 percent to 90 percent by the end of the quarter.

Following internal reviews of the status of contractors' alcohol and drug management programs, a draft Contractor Alcohol and Drug Program Implementation Plan commenced to help address areas of improvement needed across the Project.

7.4 Safety Management

The Safety Vision for the Project is *"Nobody Gets Hurt"*. This Vision has enabled the Project to continue a downward trend in incidents as a result of improved hazard identification, improved understanding of risks specific to working in Papua New Guinea and the effective communication of risks and hazards. Project work hours for this quarter are shown in Figure 7.8.

Figure 7.8 – Project work hours



Safety workshops and training programs continued to be well attended and supported by contractor teams during this quarter. Safety management activities for the quarter included:

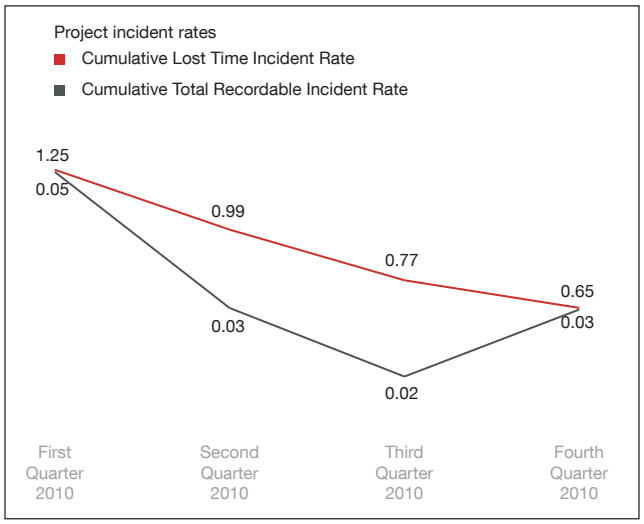
- A series of safety awareness videos in English, Tok Pisin and Huli were produced and delivered to contractor sites to support worker safety training. The videos covered topics such as Job Safety Analysis, Observation and Interaction, Toolbox Talks, Near Miss and Hazard Reporting, Health, Environment and Community Communications.

- A hand protection program conducted throughout the quarter was well attended by contractor teams. The program included a toolbox talk with supporting materials including posters, a variety of gloves and posters of oversized hands in which workers voluntarily demonstrated a commitment to the program through signing the posters. Refer to *Case Study Two – Project Hand Safety Campaign* for further information.

- The development of Observation and Interaction Guidelines for the workforce to promote best practices and clarify expectations. In addition, the Project established a Safe Work Practices team to assist contractors with effective implementation of the Observation and Interaction process.

- The fourth workshop for EPC contractors was completed. The workshops focused on safety expectations and building safety, security, health and environmental leadership capacity. These workshops build upon each other by highlighting best practices and shared learning experiences from each of the major contractors. Consequently, the workshops proved popular with attendees.

Figure 7.9 – Trend analysis year-to-date



As illustrated in Figure 7.9, the Project's Total Recordable Incident Rate continues a downward trend as implementation of the Project's safety program matures across all worksites.

Defining a Lost Time Incident

Also known as a 'Days Away from Work Case', a Lost Time Incident is any work-related injury or illness (including fatalities) that results in at least one lost work day after the day of the incident. If a condition resulting from an injury or illness causes a person to be unable to return to work on the calendar day following the day on which the incident occurred, the case is recordable and should be classified as a Lost Time Incident.

The Lost Time Incident Rate trended upward in the fourth quarter as a result of a tree felling-related Lost Time Incident which occurred in December. In this case a Project contractor, supporting clearing activities, sustained a fractured arm when the contractor was accidently struck by a tree which was felled by another laborer in the work area. Tree felling activities were suspended and a subject matter expert reviewed tree felling procedures and work practices. The contractor then reviewed tree felling best practices, and updated procedures and the Job Safety Analysis, prior to re-commencing the work.

The Project will continue to focus on the implementation of core safety processes (such as Job Safety Analysis, Personal Risk Assessment, toolbox talks, observation and interaction) to prevent incidents.

7.5 Worker Welfare and Conditions

The Project's workers include men and women from a broad range of nationalities who live together in camps; making worker welfare and workers' employment conditions critical to the Project's success. The Project places a priority on ensuring workers are recruited, trained and treated fairly in the workplace and that their accommodation needs are also carefully considered. As construction scales up, appropriate and uniform mechanisms and processes are being implemented to allow workers to raise any grievances.

7.5.1 Camps

The Komo Airfield Pioneer Camp was expanded at the end of October to provide an additional 63 beds for workers. Project workers were moved from other accommodation to single units with a shared bathroom. Expatriates and Papua New Guinean nationals are all housed at the same standard of accommodation. The total accommodation at the Komo Airfield Pioneer Camp, with the additional facilities, is 174 beds.

As construction activities scale up, a number of new camps have been mobilized or have had their bed capacity increased:

- Kobalu Camp in Hides, a temporary camp, opened with 100-bed capacity.
- Wellpad A Camp in Hides has increased capacity from approximately 100 to 328 beds.
- Juni Bush Camp, a temporary camp to house workers constructing the Juni Construction Training Facility, was established with 32 beds.
- Kantobo Bush Camp with 60 beds is located north of Gobe to support the Onshore Pipeline contractor.
- Tengo Transit Camp near the Highlands Highway is a 60-bed transit camp to support the construction of bridges west of Margarima.

Plate 7.8 – Kopi Shore Base Camp

Work has progressed on the 160-bed Kopi Shore Base Camp, with camp mobilization and erection of the main camp site following completion of survey, clearing and earthworks activities. The Kaiam Transit Camp site survey and tree felling activities were completed and grading and clearing work commenced. The Gobe Camp site survey has also been completed.

CASE STUDY TWO:
PROJECT HAND SAFETY CAMPAIGN

During this quarter, the Project had seven hand related recordable injuries. Approximately one third of recordable injuries on the Project-to-date have involved injuries to fingers and/or hands.

The Project continues to work closely with contractors to stress the importance of core safety processes (such as Job Safety Analysis, Personal Risk Assessment and Observation and Interaction) to prevent hand-related incidents. Such processes engage workers and supervisors in the pro-active identification and elimination/mitigation of hazards encountered during construction.

The consistent use of the appropriate type of gloves will in many cases mitigate the consequences of hand-related incidents. Like other Personal Protective Equipment, gloves are considered the 'last line of defense' against hand injuries.

A Project Glove Guideline has been developed to enhance the workforce's ability to mitigate hand injuries. The Guideline:

- Describes basic safe work practices for glove use.
- Identifies various types of gloves and describes primary benefits, common uses and protective characteristics.
- Provides contact information for established Personal Protective Equipment vendors in Papua New Guinea.

The Glove Guideline has been communicated to the Project workforce through multiple methods (such as Safety Meetings and toolbox talks) to ensure they understand the requirements for glove use.

The Project has also issued a safety challenge to each worksite. Each worksite is required to develop its own hand safety campaign (for example, skits, activities, posters) to increase hand safety awareness. The Project Line Management team will identify the most effective campaigns based upon worker involvement, creativity, visibility and positive worker behavior. The worksites with the most effective campaigns will be recognized in the first quarter 2011.

Hand Safety Poster

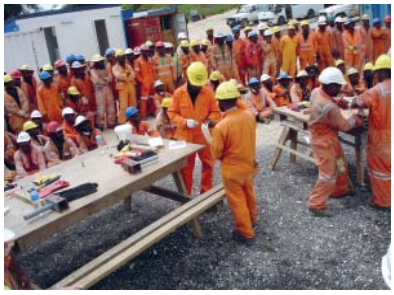
Responding to the Challenge

Pictured is one of the posters developed in response to the safety challenge. English translations of this hand safety poster are as follows:

- Hand safety is your responsibility (palm).
- Plan the work (thumb).
- Look for Hazards (index finger).
- Use the right glove for the job (middle finger).
- Lookout for your work mates (fourth finger).
- Identify pinch points (little finger).

Toolbox talks on hand safety topics

Activities and awareness talks in response to the safety challenge



Worker showing commitment by signing a worksite hand safety poster

8.0 CONFORMANCE

The Project uses verification, monitoring, assessment and audit procedures to measure its environmental performance and identify areas for improvement. These requirements are outlined in the ESMP, which can be found at www.pnglng.com/commitment.

8.1 Verification

Field observations and non-conformances from over 600 verification visits, undertaken by both the Project and contractors, were reported in accordance with designated severity levels and assigned a corrective or remedial action to be tracked to closure.

The Project's focus on effective environmental management is reflected in resourcing levels. By the end of this quarter, 11 field environmental personnel comprising one field lead, three area leads, and seven Field Environmental Advisors were appointed to the various Project worksites.

8.2 Monitoring

The Environmental Monitoring Plan has been reviewed by the DEC and their third party consultants. As part of that process, the Project's ESMP has been revised to ensure that all requirements of the Environmental Monitoring Plan are incorporated. This Plan and the ESMP have been approved in principle by the DEC. At the end of the quarter, the ESMP was being redistributed to all contractors for incorporation into their individual management systems.

8.3 Assessments and Audits

A significant activity during this quarter was the second site visit by the IESC, an independent auditor group working on behalf of the Lender Group. The purpose of the October visit was to monitor conformance with Project environmental and social commitments during Project development. The IESC spent 15 days in Papua New Guinea visiting all active worksites plus a few days with Project office personnel.

At the time of this visit, fieldwork was still limited primarily to the initial development of infrastructure to support the planned main construction program, with activities including pre-construction surveys, site preparations, road and bridge improvements, access road construction, construction of bypass roads, logistics base development, the construction of work camps and resettlement activities. The main construction activity at the time of the visit was associated with earthworks for the LNG plant site. Pipeline construction had also just started, with the clearing of 12 kilometers (7.5 miles) of ROW near the Kopi Shore Base.

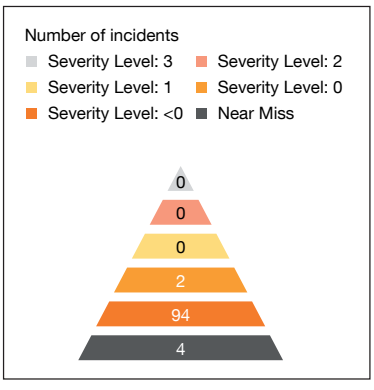
The preliminary IESC report notes the Project's commitment to minimizing social, environmental, health and safety impacts that could be caused by Project activities. It also noted that the Project had a comprehensive environmental and social management program. The IESC continues to positively observe the experience and dedication of environmental and social personnel in the field, including the contractor workers. The second IESC visit report will be published in the first quarter 2011.

8.4 Incidents, Non-Conformances and Corrective Action

8.4.1 Incident Summary

Incidents are reported for any environmental or social incidents, which may include (but not limited to) spills, unapproved emissions, unauthorized land use, damage to infrastructure and violations of permits or regulation. Project-wide, 100 environmental incidents occurred during this quarter. The incidents are categorized as shown in Figure 8.1.

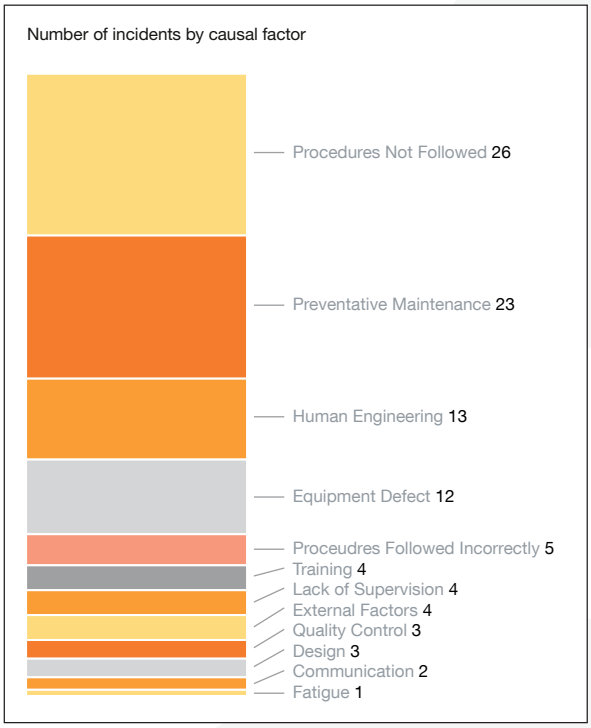
Figure 8.1 – Environmental incident summary



Corrective actions were assigned to all incidents. An important part of effective environmental management is to ascertain the causal factors for incidents. Figure 8.2 illustrates the factors causing this quarter's incidents.

The two Level 0 incidents related to deviations from surveyed land boundaries. The first involved an area of approximately 750 square meters (8,073 square feet), which was cleared outside the permitted ROW. The second was a mudslide at Akara Creek extending outside the permitted worksite of the HGCP. Further details of the non-conformance arising from this incident are outlined in the following section. Corrective actions included additional procedural and communications measures.

Figure 8.2 – Environmental incident and near miss causal factors



8.4.2 Non-Conformance and Field Observation Performance

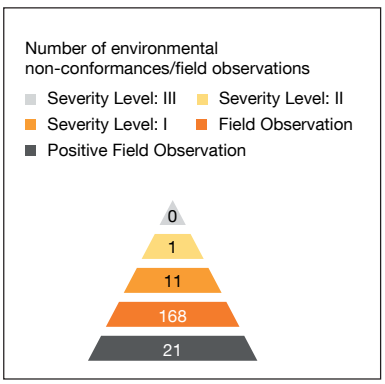
Non-conformances are primarily a proactive leading indicator and are predominantly raised as inconsistencies between works in the field and the commitments in environmental management plans, for example, improper waste management, storage of fuels or lack of adequate silt fencing.

Non-conformances may be raised through a number of channels, including verification inspections, audits, ad-hoc inspections and through an examination of all incidents to determine if a non-conformance was caused. Across the Project, the following non-conformances and field observations, as outlined in Figure 8.3, were reported.

Corrective actions were implemented for all reported non-conformances and field observations. A 30-day close-out target period introduced in the second quarter 2010 improved upon close-out rates from the first quarter 2010. Figure 8.4 demonstrates this quarter's closure status.

As part of the Project's commitments, the Project provides a summary of Level II non-conformances and above. One Level II non-conformance was raised with regard to the HGCP mudslide along Akara Creek (classified as a Level 0 incident). The non-conformance was issued against the incident for non-adherence to adequate controls to protect the water quality of a stream draining from the north of the HGCP site.

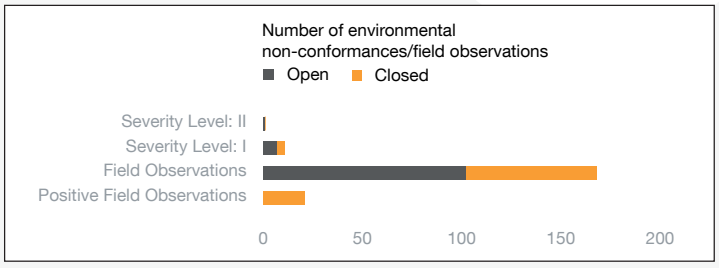
Figure 8.3 – Environmental non-conformance/field observation summary



The mudslide occurred in mid-November from an area where spoil had been temporarily stockpiled on the northern half of the HGCP worksite area. The mudslide started at the stockpile and extended 4.65 kilometers (3 miles) along the path of the Akara Creek. In addition to extending beyond the agreed Project footprint, two related impacts occurred:

- Unplanned disruption to village water supply used for drinking, bathing and washing.
- Environmental impact on non-sensitive habitat.

Figure 8.4 – Project non-conformance/field observation closure status



The investigation of the event concluded that the underlying cause of the mudslide was less than adequate planning by the construction teams to assess risks when making changes to the construction execution plan and construction methods. Corrective actions have focused on ensuring systems are in place and implemented to assess risks related to field based decisions.

In-line with elevated construction activity, particularly for the onshore pipeline ROW, there was a continuing increase in water management and reinstatement field observations. As this trend is expected to continue, the Project is aiming to enhance its 'in-situ' water sampling capabilities in 2011 with the procurement of mobile water sampling equipment.

Generally, positive field observations were made across numerous management areas, particularly with regard to the proactive implementation of erosion and sediment control measures.

Isaac Jipsy at the Project Safety, Security, Health and Environment Leadership Workshop, seated next to Decie Autin, Project Executive

Name: Isaac Jipsy

From: Southern Highlands Province

Qualifications: Bachelor of Science – Environmental Chemistry, University of Papua New Guinea; Postgraduate Honors Degree in Environmental Hazards and Risk Assessment, achieving a high distinction first class honors.

Role: Working with contractors as part of the Project's Field Environmental team to ensure the Project complies with Papua New Guinean laws and regulations, International Finance Corporation requirements, the Project's Environmental Impact Statement, the ESMP, Project Environment Permit and the site-specific pre-construction surveys.

Location: The LNG plant site, but soon to relocate to Kopi Shore Base for onshore pipeline construction.

"As the Project progresses, there will be complaints related to the environment within the impacted areas. Since I'm one of the landowners, I think I will be in a better position to work with the Socioeconomic team and talk to the communities about environmental issues and the Project's approach to addressing them.

I have always liked challenges and learning through new experiences. When I first heard about the Project, I was studying for my undergraduate degree and I thought to myself that I must work for ExxonMobil and the Project no matter what it takes.

In January, 2010, I joined the Project's Field Environmental team. One of the main challenges I have faced is how to influence subcontractors so that they implement appropriate mitigation measures to environmental risks. At first, the contractors saw me as a policeman with a punishing rod, but this perception changed as I strived to establish very good working relationships with them.

Now when I go to a site, I get to know people; where they are from and their culture so I can align my approach with what they expect. I also help contractors understand the Project's requirements through in-house training, general toolbox talks and joint safety/environmental walkthroughs. This ensures that all environmental issues are identified and addressed."

9.0 POLLUTION PREVENTION AND ABATEMENT

Pollution prevention and abatement is central to the Project's environmental management plans and operations. During this quarter, there was a focus on Project-wide waste management, air emissions management from incinerator operations and a refresher in spill response training.

9.1 Air Emissions

The primary emission sources from construction activities are flue gas from camp waste incinerators, dust from worksites and exhaust emissions from stationary and mobile plant equipment.

The Project aims to ensure that incinerators operate efficiently and air emissions are effectively controlled by segregating wastes properly prior to incineration. During this quarter, the Project developed a training package specific to the segregation of wastes for incineration. The training helps incinerator operators to differentiate between combustible and non-combustible wastes and highlights the differences between different types of plastics. Waste incineration presentations began in this quarter and will continue in 2011.

Plate 9.1 – Interior of incinerator showing remaining ash post-operation

The Project controls air emissions by monitoring average incinerator combustion temperatures to confirm that incinerators are operating within their design specification's ideal temperature range. During this quarter, all Project incinerators were found to maintain correct temperatures.

One new temporary incinerator was installed and commissioned at Kopi during the quarter. Commissioning activities were undertaken in the presence of vendor technicians and operators were trained directly by vendor representatives to ensure a higher level of competence in incinerator operation.

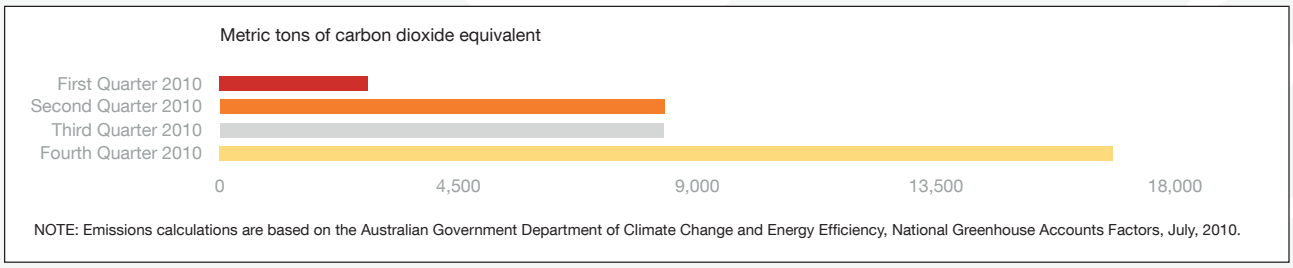
Efforts have also been made to minimize dust emissions during dry periods. Mitigation measures include the control of speed limits on unsealed Project roads, maintaining designated traffic access routes and dust suppression by water trucks.

Plate 9.2 – Incinerator in operation at the LNG plant site

Greenhouse gas emissions increased in this quarter, mirroring the increase in worksite activity and the increase in fuel use for the operation of heavy equipment, transport and construction. The Project's diesel use was 6,267 kiloliters (1.65 million gallons) which equates to a greenhouse gas emissions value of 16,837 metric tons (18,560 short tons [US]) of carbon dioxide-equivalent.

Greenhouse gas emissions were calculated based on direct fuel use for both stationary plant (such as generators and incinerators) and mobile equipment (such as heavy earth moving equipment and transport vehicles). Emissions calculations are based on the Australian Government Department of Climate Change and Energy Efficiency, National Greenhouse Accounts Factors, July, 2010. They have been updated from the June, 2009 version used in the PNG LNG Quarterly Environmental and Social Report – Third Quarter 2010. Figure 9.1 presents calculated greenhouse gas emissions by quarter for the year of 2010.

Figure 9.1 – Greenhouse gas emissions per quarter



Atmospheric air monitoring commenced at the LNG plant site in December, with three designated sites monitored for sulfur dioxide and nitrogen dioxide. All sites were well below criteria levels adopted for the Project. Assessment criteria were developed for the Project following a review of the assessment methodology suggested by the World Bank[2]. The LNG plant site personnel have recently obtained an air monitoring device that will be used to monitor ambient conditions.

The pipe lay vessels to be used to install the offshore pipeline are in compliance with the requirements of the MARPOL Convention (The International Convention for the Prevention of Pollution of Ships, 1973); this includes vessel emissions and onboard incinerator stack emissions.

9.2 Noise and Vibration

Ensuring that noise and vibration from Project activities is within acceptable levels remains a priority. Acceptable levels are determined by assessing the existing background noise and the surrounding receivers such as local residents and sensitive fauna, including bats. Criteria are then developed as an indicator of effective noise management.

During this quarter, environmental noise monitoring was completed at residential receptors near a number of camp locations, including Oiyarip Camp, the Juni Construction Training Facility and Wellpad A. Noise levels related to construction at these locations were in accordance with the World Health Organization's ambient day and night noise standards. However, this monitoring was undertaken prior to the start of nighttime construction works at Hides during November.

Also, during this quarter, two community complaints regarding noise were raised with respect to nighttime construction works on the HGCP to Hides Quarry Road. They were resolved by the Project's Socioeconomic team. The Project will commence noise monitoring of nighttime construction works in the first quarter 2011.

In December, noise level monitoring also commenced at the LNG plant site. Three designated and repeatable sites were monitored both day and night. The results for all sites were within noise measurement criteria as outlined in the Project Noise and Vibration Management Plan.

9.3 Waste Management

A Project-wide Waste Management Review has been completed, identifying key waste generation and management milestones and activities as well as corresponding challenges. The absence of Project-approved recycling opportunities within Papua New Guinea is a particular challenge, and the Project has met with waste service providers to identify potential solutions.

[2] World Bank (1998) "Pollution Prevention and Abatement Handbook" available from http://wbln0018.worldbank.org/institutional/manuala/opmanual.nsf/toc2.

Potential waste storage capacity limitations were considered as part of the Waste Management Review. The Project is focused on alleviating this situation by fast tracking construction of the Hides Waste Management Facility, effectively using existing site-specific waste segregation and storage areas, and where possible, opening early access to part of the Hides Waste Management Facility so that it can be used for bulk waste laydown (until such time as the Hides Waste Management Facility waste management infrastructure is installed and can process waste). The Review also re-forecasts the predicted waste volumes for the Project, identifying that initial volumes were underestimated but that landfill design capacity was still adequate.

Waste types and volumes continue to be recorded across the Project. Solid waste by type for those contractors with active sites is illustrated in Figure 9.2.

Plate 9.3 – Discussing layout of the Hides Waste Management Facility with the local community

Figure 9.2 – Solid waste (metric tons) by type[3]

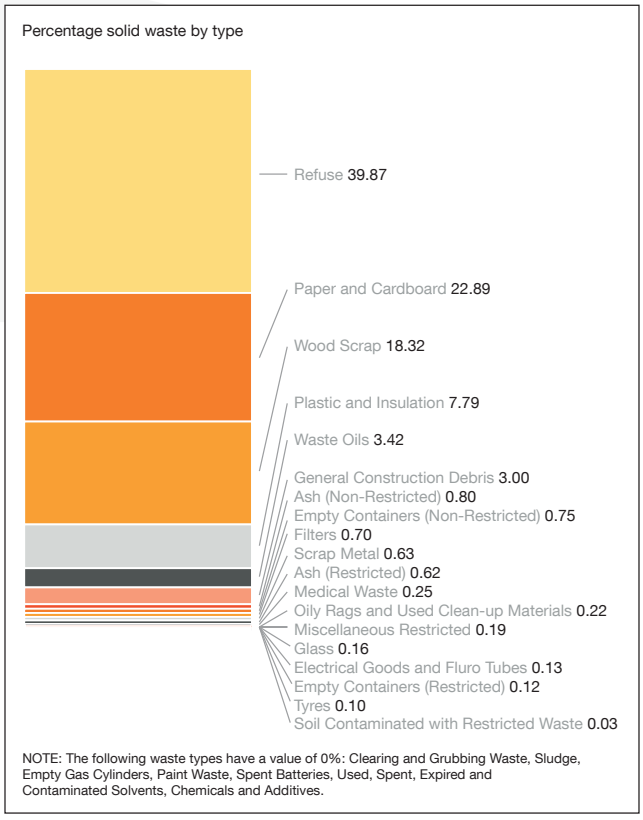
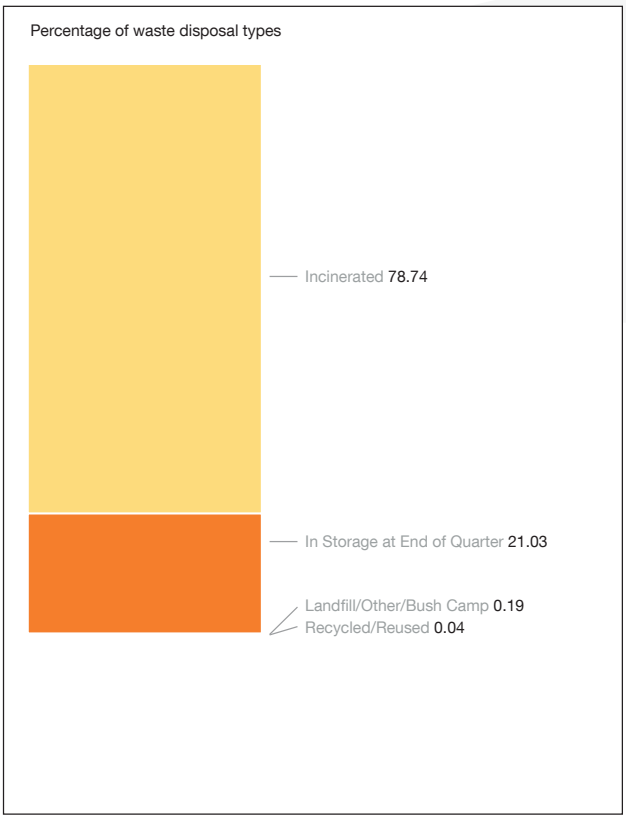


Figure 9.3 – Waste (cubic meters) by disposal method



Predominant waste materials generated in this quarter were general construction debris, paper and cardboard, plastics and insulation, scrap metal and wood.

Disposal methods for solid wastes during this quarter are illustrated in Figure 9.3.

[3] Wastewater and sludge has not been included this quarter, as systems are still being developed to capture volumes across all sites.

Waste disposal at Gobe improved in the fourth quarter with the installation of a waste incinerator at the Gobe Camp. This has reduced reliance on third party facilities at the Ridge Camp and is allowing the Upstream Infrastructure contractor to more effectively manage and control their waste streams. In addition, old storage areas have been removed and cleaned-up and segregated non-combustible wastes have been stored within containers on-site. The Project also reviewed waste transfer forms and waste recording processes identifying areas for improvement and providing one-on-one training. A follow-up site review is planned for the first quarter 2011 to monitor progress and provide follow-up guidance as required.

At the LNG plant site, the interim waste storage area that was completed in the third quarter 2010 is operational and can accommodate 60 shipping containers. At a later stage, this will be converted into a Restricted Waste Storage Area.

The Offshore Pipeline contractor has provided monthly waste generation forecasts and established interface agreements with other EPC contractors to use their onshore waste management facilities.

Plate 9.4 – Kobalu wastewater treatment plant and incinerator

The Upstream Infrastructure contractor has installed five wastewater treatment plants at Oiyarip, IDT10, Wellpad A Camp, Gobe Camp and Kantobo Camp (adding to the plant at Kantobo that was established in late October). Two further wastewater treatment plants are scheduled for installation in the first quarter 2011 at the Upstream Infrastructure contractor main camp (adjacent to the HGCP site) and Tengo Camp. During this quarter, wastewater from Tengo Camp was stored in on-site tanks and trucked to Oiyarip Camp for treatment.

In-situ monitoring at camps continued for total bacterial coliform, the bacteria *Escherichia coli* and pH. During December, samples for laboratory analysis were undertaken. Results fell within standard requirements with the exception of the wastewater discharge at Wellpad A and Komo Airfield in late November. The December results for Wellpad A were all compliant and further testing will take place in January, 2011.

Following advice from a wastewater treatment specialist, options such as increased residence time and increased chlorine dosage were being trialed at the Komo Airfield Pioneer Camp for improving the quality of wastewater discharges. Further sampling will be undertaken to determine the effectiveness of treatment options.

From 2011, a Project approved laboratory service in Port Moresby will be used for some wastewater analysis. This will better enable field personnel to meet time constraints between taking the biological sample and conducting the analysis before the sample can degenerate to the point that the results may be invalid (the holding time).

9.4 Hazardous Materials

The Project Hazardous Materials Management Plan aims to avoid the use of hazardous chemicals and materials subject to international bans or phase-outs and to prevent the uncontrolled release of hazardous materials during transportation, handling, storage or use. A list of banned chemicals and substances has been communicated to all contractor procurement teams who then confirm these chemicals are not included in purchases.

Hazardous materials management on active sites is monitored through multidisciplinary verification inspections. Other contractors who are in planning phases are integrating the Hazardous Materials Management Plan requirements into activity-specific management systems.

During this quarter, the Drilling team initiated a selection process for foam and foam additives to be used as a surfactant when drilling wells. The process included consideration of applicable toxicity testing and a review to select fit-for-purpose foams and additives that present the least hazard to the environment. The Drilling team also undertook a review of the management of foams both on- and off-site.

No materials subject to bans or phase-outs were reported to be on sites during this quarter.

9.5 Spill Prevention and Response

Both the Project and its contractors have focused their efforts on addressing spills via toolbox talks and the circulation of Safety, Health and Environment alerts. Managers from the Project and contractor teams made presentations at all sites on the importance of preventing, minimizing, responding to and reporting spills. This was followed up with site leads continuing to highlight the importance of vigilance on spills.

The ongoing focus on spill prevention is evident in recent spill metrics. Although there were 89 hydrocarbon spills during the fourth quarter, trend analysis shows an overall decrease in spill volume and numbers per 200,000 work hours throughout 2010. The average hydrocarbon spill size was five liters (1.3 gallons) which was lower than the average spill size reported in the third quarter 2010. The downward trend in spill volume has been recorded despite a rise in the number of hours worked on sites.

Plate 9.5 – Spill response kit at the LNG plant site

An examination of causal factors of spills shows the primary cause was less than adequate adherence to a procedure. Other causes were less than adequate adherence to preventative maintenance and equipment damage.

The Komo Airfield contractor responded to spill incidents in October and November by implementing a renewed program of spill awareness, including refresher training for workers and supervisors to clarify response actions by the workforce. They also undertook a review of machinery servicing, daily pre-start checks and ordered more spill response kits.

The effective example of spill prevention measures provided by Oiyarip Camp in the third quarter 2010 was transferred to Gobe where oily-water separators were installed at two locations. The Upstream Infrastructure contractor is planning improvements at the new temporary workshop at Hides, which is involved in concreting the base of the workshop and installing oily-water separators.

Spill risk assessments were also undertaken for newly active sites including:

- Three at the HGCP (fly camp construction, Northern Logistics Route support and Upstream Infrastructure contractor main camp).
- One for Mendi, and ongoing at Kantobo and Gobe.
- One for communications installations, the emphasis primarily being on hazardous materials deliveries (such as batteries containing acidic gels) to remote mountain top sites.
- One for the onshore pipeline.

Oil spill response equipment, planning mechanisms and training were provided in response to risk assessments. The onshore pipeline assessment also provided an opportunity for the development of an In-Principle Agreement with the existing response organization within Oil Search Limited's operations. In the event of a large spill, particularly to water, Oil Search Limited would assist the Project with an effective response. The combined response has since been tested with a live oil spill exercise at Kopi Shore Base, involving both onshore contractors and Oil Search Limited.

9.6 Dredging

During this quarter, the Offshore Pipeline Dredging Management Plan was drafted and the dredging subcontract awarded. This Plan is scheduled for completion in 2011.

Dredging will occur at the Omati River to create the shallow access channel to permit offshore pipeline construction. Dredging and dredge spoil disposal operations require careful management to minimize environmental impacts, such as turbidity.

The Project has conducted a marine survey to determine the physical composition (particle size) and chemical composition (including contaminants) of material to be dredged. Final results from the laboratory are pending; however, preliminary indications are that levels in the material to be dredged are normal, with no cause for concern with respect to contaminants.

Recycling Opportunities in Papua New Guinea

A Waste Management Review conducted by the Project has identified potential opportunities to improve in-country waste recycling options.

The Project will generate an estimated 20,000 liters (5,280 gallons) of waste oil per month. This material is primarily from repairing and maintaining earthmoving and mobile power generation equipment.

During this quarter, the short-term arrangement to recycle waste oil via the existing third party pipeline finished and the Project has been investigating alternative options. In the absence of waste oil recycling agencies in Papua New Guinea and suitable Project reuse options, a Lae-based agricultural enterprise will receive waste oil for energy recovery. The enterprise is a Papua New Guinea registered company in operation for approximately 40 years. The company has undertaken a number of local agricultural projects funded by the Australian Agency for International Development (AusAID).

The waste oil will be used in a chicken processing plant to fire boilers that make steam, which then drive the machinery in the plant. The plant uses about 30,000 liters (7,925 gallons) of oil per day and potentially has the capacity to take all Project oil. The recovery of Project oil has the potential to significantly offset the chicken plant's alternative fuel sources. A review demonstrated that the facility and its operation are in accordance with Project standards. The transfer of waste oil is anticipated to begin in 2011.

Another opportunity has been developed in the form of recycling expended toner cartridges from Project printers and photocopiers through a local Papua New Guinea company. This is under evaluation to ensure that the disposal methods and processes are acceptable and meet Project standards.

The Project is also investigating initiatives for dealing with waste concrete, scrap metal, used spill kits and sludge from sewage treatment plants, as well as the use of greywater for dust control and options for bioremediation of spill-contaminated soils.

10.0 BIODIVERSITY

Preserving Papua New Guinea's biodiversity is also a high priority for the Project with numerous initiatives and management measures in place to ensure that biodiversity issues are adequately addressed.

10.1 Ecological Management

Pre-construction surveys completed up to November identified 930 mitigation measures over and above those in the Project's Environmental Impact Statement and the ESMP, with a total of 1,298 mitigation measures being implemented and verified across the Project Impact Area at the end of this quarter.

Pre-construction survey efforts intensified during the quarter on the pipeline route and associated facilities. Notable species recorded during the surveys included a Tree Kangaroo *Dendrolagus goodfellowi*, Long Beaked Echidna *Zaglossus bruijni* and birds – Raggiana Bird-of-Paradise *Paradisaea raggiana*, Southern Cassowary *Casuarius casuarius*, Vulturine Parrot *Psittrichas fulgidus*, Blyth's Hornbill *Rhyticeros plicatus*, King Bird-of-Paradise *Cicinnurus regius*, Magnificent Riflebird *Ptiloris magnificus* and Trumpet Manucode *Manucodia keraudrenii*. Habitat was found within 100 meters (328 feet) of the Kantobo to Mubi Road along a 3 to 8 kilometer (2 to 5 mile) section, which has the potential to house sizable colonies of bats. There is also potential for large bat colonies near the Hides Wellpads B to G and Wellpad Access Road. Mitigations for these two areas are being developed and at a minimum will be limited to controlled blasting at these locations.

Plate 10.1 – Raggiana Bird-of-Paradise

To help manage potential effects on the various Bird-of-Paradise and Bowerbird species, Project workers are prohibited from disturbing their display grounds or trees identified next to the ROW. Bird-of-Paradise and Bowerbirds are lekking species, meaning the males gather communally in special display areas and compete for the attention of females. These display areas may be trees or specially prepared sites on the ground. Lekking areas are often traditional and form breeding epicenters for local populations of species. Display areas can cover several hundred hectares with widely dispersed bowers or display sites, sometimes strung along a narrow ridge. These areas and trees may be used for several decades.

Specific environmental assessments have also continued for proposed new sites. One such assessment was a study undertaken in November for the proposed Timalia River Borrow Pit. The study identified two individual Raggiana Bird-of-Paradise species which will be monitored during works. Salvadori's Teal *Salvadorina waigiuensis*, a water bird, listed as vulnerable by the International Union for Conservation of Nature, was recorded close to the worksite in 2009 but not recorded in the 2010 survey. During the works, monitoring will continue to look for evidence of Salvadori's Teal on-site as part of their overall environmental monitoring routine inspections.

Tree felling activity has commenced along the pipeline ROW. Two hundred and three large trees (greater than 1 meter [3.3 feet] in diameter at breast height) were recorded during pre-construction surveys for the pipeline and associated facilities. Species included Campnosperma *Campnosperma brevipetiolata*, Fig *Ficus* spp., Taun *Pometia pinnata*, Forest Flame *Erythrium* sp., Strangler Fig *Ficus elastica*, *Elaeocarpus* sp. and *Homalium* sp. Trees of this size are mature and provide habitat for fauna. They are also sources of seed for forest regeneration. In upland forest they are often rare and provide a habitat for characteristic orchids and ferns. When felled, they produce ancillary forest damage (falling trees damage neighboring trees by scraping off sections of bark, scarring buttresses and hitting crowns). This allows wood rotting organisms to invade and the damaged trees frequently die. As such, individual trees of this size are retained where possible.

Where trees are felled by hand, directional felling of trees with greater than 50 centimeters (20 inches) diameter at breast height is used, wherever practicable, so they land in natural slots between standing trees or along the axis of tracks to reduce damage to the remaining forest.

Tree management is also being undertaken at the LNG plant site. Following the identification in the third quarter 2010 of one mature and one young specimen of the threatened Sandalwood tree *Santalum macgregorii* outside the perimeter fence of the LNG plant site, monthly sandalwood condition monitoring was implemented. No detrimental effects were observed on the trees during this quarter.

As part of the Project's environmental monitoring program, a program of sampling the freshwater streams, creeks and rivers around the various Project work areas for macro-invertebrates is underway. Macro-invertebrates are animals without a spine large enough to be seen with the naked eye. They are used as indicators of water conditions as they are easy to collect. Many stay in a small area most of their lives and many are sensitive to changes in stream conditions such as higher levels of sediments, high water temperatures or low levels of dissolved oxygen. Others are tolerant and can survive changes in stream conditions making them indicative of environmental stressors. Monitoring of macro-invertebrates can help identify where the Project's construction activities may be impacting. It will also help contribute to an improved understanding of Papua New Guinea's stream ecology.

Plate 10.2 – Leaf Hopper Idiocaris sp. (left) and Tanycricos sp. (right). Two of the large naucorids (creeping water bugs) found in the streams of the Southern Highlands

Plate 10.3 – Live picking macro-invertebrates from a sample at Kaimari Creek

Plate 10.4 – Marine survey underway

The marine environment was also the subject of attention during this quarter. One of the conditions of the Project Environment Permit was the completion of marine baseline studies to characterize the biophysical environment at the proposed Omati River dredge and disposal sites prior to commencing dredging for the offshore pipeline. To meet this condition, a week-long marine survey was completed to collect soil samples to be tested for chemical characteristics and benthic communities. At the end of the quarter, the samples were being analyzed to characterize the benthic communities present. Results are expected at the end of February, 2011.

10.2 Quarantine Management

During this quarter, the Project's contractors continued engaging with Papua New Guinea's National Agriculture Quarantine and Inspection Authority, arranging Port of Origin visits to oversee the loading of coated pipe onto vessels in Indonesia. These visits provide an opportunity for the National Agriculture Quarantine and Inspection Authority to confirm the integrity of the goods and any associated packaging has not been compromised en route from the manufacturer's premises and to observe the dedicated cleaning facility at the Batan Island Kabil Port Wharf.

Arrangements are underway for National Agriculture Quarantine and Inspection Authority officers to expand their inspections to production facilities for camp units in the United Arab Emirates, as these units will arrive in large volumes via Lae on the Northern Logistics Route.

Based on the Project's freight movement forecasts, the Authority has trained 30 additional officers who will be deployed in Port Moresby and Lae, to provide coverage and border protection at the entry points to both the Project's Southern and Northern Logistics Routes.

The Project also continues facilitating regular meetings with relevant government and industry stakeholders, including the National Agriculture Quarantine and Inspection Authority, to ensure the transparency of all operations and to engage senior management of the Agencies in compliance activities.

10.3 Weed, Plant Pathogen and Pest Management

Management of weeds is required to control the spread of invasive species into areas in which they may colonize and rapidly establish. Dieback, which can be caused by the fungal pathogen Cinnamon fungus *Phytophthora cinnamomi*, results in canopy defoliation and death in trees. A survey undertaken in the third quarter 2010 confirmed the presence of dieback along the Wellpad Access Road on the Hides Ridge. Subject to ground truthing, the area is considered to be free of the highest priority weed species. In view of these conditions, the Upstream Infrastructure contractor developed a site-specific weed and dieback control procedure for the Hides Ridge (see *Case Study Three – Weed Management*). The Onshore Pipeline contractor also developed a Weeds, Plant Pathogens and Pests Management Plan specific to their activities.

Plate 10.5 – Big Lip Rope Merremia peltata

One higher priority weed species, the highly invasive Pond Apple *Annona glabra*, was identified at the Kopi Scraper Station during surveys undertaken in this quarter. The recommended treatment for this species is hand pulling or grubbing of plants (ensuring removed stems are not in contact with soil to avoid resprouting) or the application of glyphosate as cut-stump treatment/stem injection.

The Project aims to control new weeds, plant pathogens or pests from establishing or spreading from works areas. Regular inspections by the Upstream Infrastructure contractor indicated an area of Big Lip Rope *Merremia peltata*, a high priority native weed, had possibly spread beyond its existing limits on the Gobe to Mubi River Road and the Kaiam Bridge southern approach. Being a native species, the weed is present in vegetation or soil and becomes established when bare ground is opened up. Its spread may, however, be limited by the density of vegetation away from bare ground and the extent of the species appears to be limited around Project areas. The Project is investigating if control is required and, if so, the appropriate action to take. In the meantime, the species is being cut back manually.

CASE STUDY THREE: WEED MANAGEMENT

Managing weeds, pests and plant pathogens, and ensuring that rehabilitation areas are restored to a natural state, protects Papua New Guinea's rich tropical flora, fauna and native forests so that they maintain their ecological value.

Plant pathogens and serious weeds can have a negative impact on local agriculture and private gardens and even on how an ecosystem functions, leading to a loss of habitat for native plants and animals.

As the Project is placing worksites within or nearby previously disturbed areas, the majority of these sites have been found to already have weeds to some extent. This has meant that the Project's planned focus on preventing weeds from being introduced into an area has changed to managing the spread of weeds and any increase in weed activity.

Weed Management Definitions

Weeds are undesirable plant species that invade native communities or ecosystems.

Plant pathogens are microorganisms, including fungi, bacteria or viruses that cause infectious diseases in plants.

Priority 1 weeds require control at most localities and are the only weeds the Project is required to control as part of the Project Environment Permit.

Priority 2 weeds (medium priority) and **Priority 3 weeds** (lowest priority) do not need to be controlled because they represent a lower environmental risk.

The term '**dieback**' describes any plant disease that causes gradual death. Dieback is a naturally occurring process in Papua New Guinea that can be associated with insect attack/ infestation, fungi or drought. With respect to fungi, the main pathogenic fungal species that is most likely to cause dieback is Cinnamon fungus *Phytophthora cinnamomi*.

The Weed Management Philosophy

Weed management at Project worksites includes the following elements:

- Pre-Construction Surveys: identifying existing weeds and developing worksite-specific mitigation measures.
- Active Control: control of existing weed infestations, using non-residual herbicides (such as glyphosate) or manual control methods where possible.
- Access Control Zones: involving physical separation of vehicles, plant and equipment from weed infested areas and/or spoil.
- Spoil Management: stripping of topsoil after initial control and stockpiling in an Access Control Zone.
- Contractor Monitoring: assessing the success of control and monitoring changes in the abundance of priority weeds.

The Project's Weed Management Philosophy has divided the Project area into several sections called Weed Management Areas, which are based on the level of weed infestation, natural topographic barriers and vegetation types. Within each of these sections, pre-construction surveys have been completed (or are underway) and any weeds present are documented and assessed for the potential risks they pose to surrounding Weed Management Areas.

All identified weeds are assigned a Priority level – Priority 1, 2 or 3. Interestingly, the same weed may be listed with a different priority level in a different location because the classification ratings relate to levels of risk, not species. Levels of risk are decided by the Pre-construction Survey team experts. As part of the pre-construction survey process, the identification and recording of all Priority 1 weeds is undertaken. These weeds may be able to arrest natural recovery processes in gaps and move into other gaps as these become available, out-competing native species for these sites. Unless controlled, they will readily colonize sites associated with large-scale construction-related disturbance, especially where that disturbance is adjacent to native forest.

CASE STUDY THREE: WEED MANAGEMENT

Weed and Dieback Control at Hides Ridge Area

The Project's Weed Management Philosophy is implemented through site-specific controls. Those developed for the Hides Ridge area cover the Hides Quarry Road, the wellpads, Hides Quarry 1, Hides Quarry 3, and the Wellpad Access Road. A procedure has been developed to prevent the spread of weeds into areas where they are not currently established, control key priority weeds at worksites and prevent the spread of dieback caused by the Cinnamon fungus *Phytophthora cinnamomi*.

As a first step, surveys for weeds, dieback and Antarctic Beech *Nothofagus* spp. trees, which are highly susceptible to dieback, were undertaken. Weeds were then assigned a priority level, with examples of Priority 1 weeds, the highest priority for control, shown in the following photo log.

Photo Log – Priority 1 weeds

Elephant Grass *Pennisteum purpureum*

Japanese sunflower *Tithonia diversifolia*

Silver-leaf Desmodium *Desmodium uncinatum*

Coffee *Coffea arabica*

Along the HGCP to Hides Quarry Road, 22 species of weeds were identified of which seven were classed as Priority 1. Four Priority 1 species were recorded at Hides Quarry 1 and Hides Quarry 3 and surveys will be completed for the Wellpad Access Road in 2011.

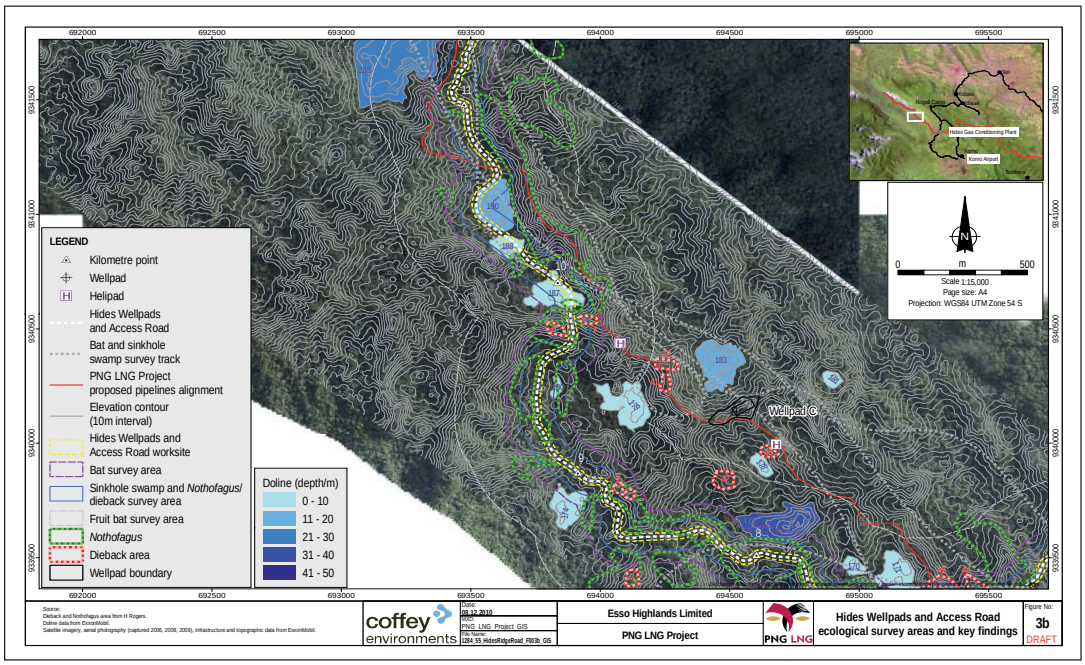
Specimens of Antarctic Beech *Nothofagus* spp. were present in the Hides Quarry 1 and Hides Quarry 3 areas and no dieback was observed. Several patches of dieback were recorded on the Antarctic Beech *Nothofagus* spp. forests in the area around the Wellpad Access Road although logistical/safety constraints prevented these being confirmed as naturally occurring or caused by Cinnamon fungus *Phytophthora cinnamomi*.

There are three aspects to the weeds and dieback management strategy for the Hides Ridge area as shown in the following table.

Hides Ridge Area Weeds and Dieback Management Strategy	
1. Prevention of Weed Spread	A clean/dirty line will be established along the Wellpad Access Road and controlled through compulsory washing of plant equipment and vehicles that cross the line – documented in washdown certificates.
2. Control of Priority 1 Weeds at Worksites	Photos of Priority 1 weeds are included in the Project's Weed Management Philosophy to assist with identification. The Environmental team monitors them through weekly environmental inspections. Priority 1 weeds are those most invasive in a natural ecosystem, with the ability to rapidly colonize bare ground. A weeds specialist based at Kantobo has been engaged to provide expert training as needed and new weed outbreaks will be controlled via physical and/or chemical removal.
3. Prevent the Spread of Dieback	**Wellpad Access Road** Dieback areas at the Wellpad Access Road will be sign-posted and regularly communicated to work crews during pre-start meetings. To reduce the likelihood of dieback spreading, vehicles, plant and personal effects will be cleaned and treated when leaving a dieback area. The contractor's Environment team will undertake regular inspections of washdown certificates to ensure plant and vehicles which have passed through a dieback area have the appropriate certificates. In addition, topsoil will not be removed from the infected area. As Cinnamon fungus *Phytophthora cinnamomi* cannot survive in limestone, once the limestone material has been laid down for the road, plant and vehicles will be able to travel through dieback areas without requiring further washdown, providing they do not leave the road while in these areas. **HGCP to Hides Quarry Road, Hides Quarry 1, Hides Quarry 3 and the Hides Quarry 3 Access Road** To prevent the spread of dieback along the Hides Quarry Road and potentially into the Hides Quarries, any equipment known to have been operated in a potential dieback location (and was not disinfected prior to leaving it) and/or whose work history is unknown, is treated prior to entering the HGCP to Hides Quarry Road worksite. A register of worksite equipment will also be maintained documenting their previous work history (when known) and potential risk of contributing to dieback.

Ecological survey areas and key findings for a segment of the Wellpad Access Road

Possible dieback areas shown in red/pink dashed lines.



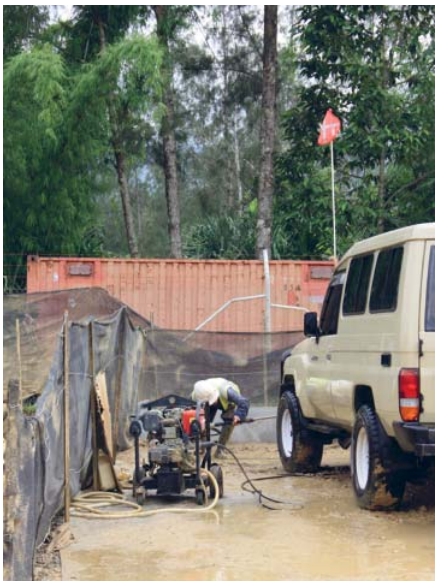
Contractor monitoring, aimed at assessing the success of control and monitoring measures for Priority 1 weeds at Project locations is a critical aspect of the Weed, Plant Pathogen and Pest Management Plan. The Project has a verification and inspection process in place to ensure contract compliance. This will help ensure that rehabilitation areas are restored to a stable and safe condition which facilitates natural regeneration processes to ensure the ongoing protection of Papua New Guinea's rich ecology.

During this quarter, post reinstatement monitoring and spraying of weeds at Kopi was undertaken. Surveys showed that the highest propriety weeds were being effectively controlled in newly reinstated areas.

The main high priority weeds in the Komo area are Elephant Grass *Pennisetum purpureum*, Giant Cane *Arundo donax*, and Japanese Sunflower *Tithonia diversifolia*, which are all widespread in the area, particularly along the Heavy Haul Road. Frangipani Ginger *Hedychium gardenerianum*, Lantana species and Singapore Daisy *Sphagneticola trilobata* occur in isolated pockets. Inspections of new equipment brought to the site continued and a temporary washdown facility was established at the Komo Airfield construction site.

Weed spraying was also conducted during the quarter at the Komo Airfield site, whilst weed backpack sprayers and herbicides were provided for the pipeline area in case they were required. Other mitigation measures applied included toolbox talks highlighting the need to keep inside Project worksite perimeters, including along access roads.

Plate 10.6 – Temporary washdown facility



At the proposed Timalia River Borrow Pit, three priority weeds including Elephant Grass *Pennisetum purpureum*, Thick-Head *Crassocephalum crepidioides* and Coffee *Coffea arabica* were recorded. Mitigation measures will be implemented, should resource extraction proceed.

10.4 Induced Access

The Project's Induced Access Management Plan is intended to control access to new Project roads and reduce the occurrence of potentially damaging non-Project activities.

The Project maintains a register of proposed new Project roads and access tracks, with access control and closure requirements defined prior to construction.

Although the potential for induced access exists across the Project area, it is particularly relevant to construction of the onshore pipeline because of the need for vehicular access to this extended linear feature. The Project is conducting a detailed induced access review and planning exercise in relation to the activities of the Onshore Pipeline contractor. The review will enable appropriate access controls to be designed and implemented for access roads to the pipeline ROW.

10.5 Reinstatement

Spoil continues to be actively managed to maintain the floristic diversity and viability of the topsoil resource and optimize reinstatement success. Such measures incorporate weed prevention, erosion control and maintenance of microbial activity.

During this quarter, an interface agreement was developed that defined topsoil preservation requirements and responsibilities for near- and long-term reinstatement for the HGCP. The interface agreement is between construction contractors and Esso Highlands Limited. The intention of the agreement is to ensure the progressive reinstatement occurs for the various construction/laydown areas within the HGCP as they become available through the construction execution. In some cases, laydown areas used early on in the project will not be required by any subsequent teams and so are available for progressive reinstatement. The interface agreement establishes which areas will require reinstatement, responsibility for who must reinstate each area, and also some minimum expectations for the reinstatement effort.

Meanwhile, the Komo Airfield contractor has started preparations for reinstatement. A nursery has been established within the Airfield worksite to trial suitable species for use in reinstatement. Plans have also been made for seeding trials of two grass species, Carpet Grass *Axonopus compressus* and Japanese Millet *Echinochloa esculentum*, to determine which grass may be suitable for revegetation of the Airfield area (verges between the runway, taxiways and aprons). Carpet grass is a, naturalized, non-invasive species that is common around Komo/Hides and will provide an effective, long-lasting cover and allow the regeneration of native species where desired. Japanese Millet will be planted as a temporary cover, as it germinates in four to seven days, dies out in six to eight weeks and is completely sterile. Both species will be applied at the same time. Japanese Millet provides the short-term stabilization and Carpet Grass works in the longer term as a ground cover and erosion control and then progressively gives way to natural grasses that germinate from the natural seed bank in the soil or other sources from the surrounding area.

10.6 Biodiversity Strategy

The Biodiversity Strategy document has been finalized and released into the public domain. Finalization and disclosure of the Biodiversity Strategy marks a milestone in the Project's program for the management of biodiversity.

Completion of the Biodiversity Strategy enables the Project to commence an extensive consultation process which will inform the development of subsequent phases of biodiversity management, in particular the development of an Offset Delivery Plan.

During the first half of 2011, the Project will build on the informal consultation undertaken during 2010 with a series of formal consultations with the DEC, relevant non-government organizations and other stakeholders. The aim is to develop an Offset Delivery Plan which will define in detail the approach the Project will take in the execution of offset projects to account for residual impacts to ecology and biodiversity.

In addition, progress has been made on the long-term biodiversity monitoring program as outlined in the Biodiversity Strategy. The methodology for remote sensing in the Project Impact Area was also completed. The first phase of regeneration monitoring has progressed with the selection of methods for benchmarking regeneration. Final components of benchmarks are to be progressed during the first quarter 2011.

11.0 RESOURCE MANAGEMENT

The Project takes care to manage natural resources such as water, timber, quarry materials and soils in recognition of their ongoing social, economic and cultural value.

11.1 Water Management

11.1.1 Usage

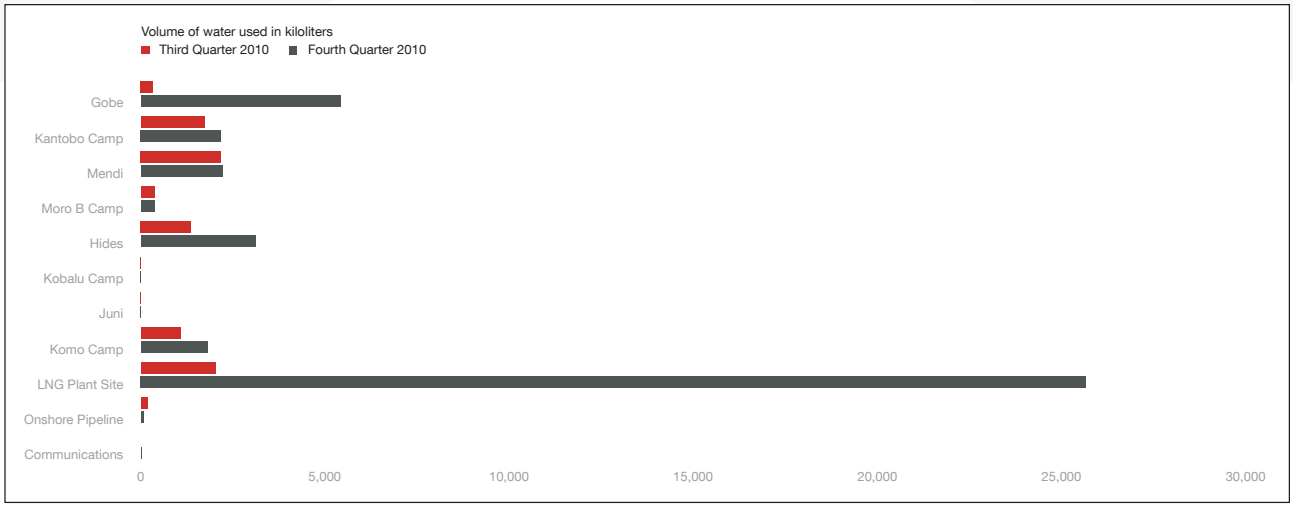
The Project's freshwater usage includes procured non-potable and drinking water, as well as water abstracted from surface and groundwater sources. During this quarter, water was extracted from eight surface water locations (not including ponds) and four groundwater locations. In November, water abstraction environmental and social assessments were completed for water sources at the newly established Kantobo and Tengo camps. The assessments demonstrated that the abstraction rate would be less than ten percent of water draw, which enables abstraction to proceed.

Plate 11.1 – Rainwater harvesting at Kobalu

Project water usage in the fourth quarter amounted to just over 40,000 kiloliters (10 million gallons). This compares with just over 11,000 kiloliters (just over 2 million gallons) for the third quarter 2010, reflecting seasonal variation and the increase in construction activity. Water abstraction volumes were within the annual limits set by the Project Environment Permit.

The volume of water use by location is shown in Figure 11.1.

Figure 11.1 – Water use in the third and fourth quarters 2010

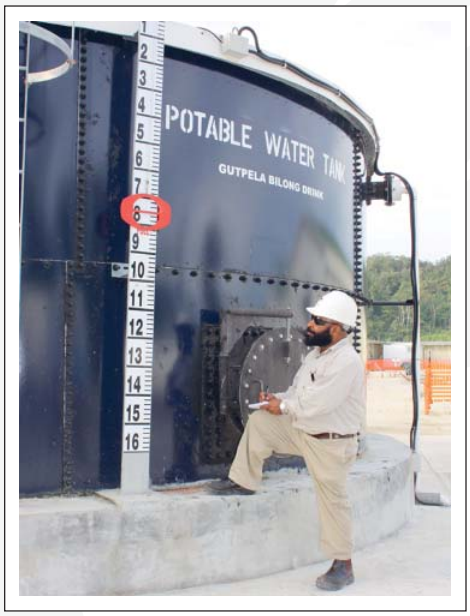


Three factors have contributed to the increased water use at the LNG plant site:

- An increased area of the site requires dust suppression with water trucks. Water for dust suppression was obtained from a groundwater bore, a sedimentation pond and a standing water pond adjacent to the LNG plant site Bypass Road.
- Water is being used in construction works, such as concrete batching.
- The number of workers has also increased the requirement for domestic and potable water (although of the 25,663 kiloliters (6,780,000 US gallons) reported for the LNG plant site, only 20 percent was potable water).

11.1.2 Quality

Plate 11.2 – Monitoring water usage at Moro B Camp



During this quarter significant efforts were made to improve water quality monitoring from wastewater discharge locations. Project management visited all sites, spending time with each of the contractor environmental coordinators responsible for completing wastewater discharge monitoring, and for identifying and rectifying any underlying problems. Improvements observed in December included the completion of timely and effective wastewater discharge monitoring.

In addition, the Upstream Infrastructure contractor has appointed a designated staff member responsible for ensuring that water quality monitoring is completed at all Upstream Project sites.

11.2 Raw Materials

Most quarry material was sourced from existing third party (operating or previously abandoned) quarries. In accordance with the Raw Materials Management Plan, existing quarries will continue to be used in preference to new quarries. One new quarry (Tamalia River Borrow Pit) was established during this quarter. The extraction of material from the Tamalia River Borrow Pit is different to other Project quarries in that large basalt boulders need to be sifted from alluvial soils and then crushed for construction material rather than extracted from pinnacles or a hard rock quarry.

An Environmental Assessment Survey Report was completed for the Tamalia River Borrow Pit, which identified the presence of the Raggiana Bird-of-Paradise and weed management issues. These sensitivities will be managed, but are not significant enough to prevent site development (refer to *Section 10.1 Ecological Management and Section 10.3 Weed, Plant Pathogen and Pest Management*). One of two quarries in the Hides area (QA-1) which was surveyed in the third quarter 2010 was reassessed during this quarter as there was a need to extend the quarry by 100 meters (328 feet). No new sensitivities were found.

During this quarter, 15 quarries were in use as outlined in Table 11.1.

Table 11.1 – Quarries in use and extracted volumes during the fourth quarter

Area/Quarry Name	Volume Extracted (m^3)
Mendi (1 Quarry)	30,190
Hides (3 Quarries)	97,532
Kobalu (1 Quarry)	16,000
Southern Logistics Route (7 Quarries)	86,480
Onshore Pipeline (3 Quarries)	10,485

To date, only small volumes of timber have been required by Upstream Infrastructure teams to complete respective scopes of work, principally for walkways in camps. This is typically about 5 to 20 cubic meters (approximately 177 to 706 cubic feet) per camp site. This timber has been sourced from local Lanco operated suppliers and hasn't been sufficient enough to require a permit under the Papua New Guinea *Environment Act 2000*. All other timber requirements during this quarter were entirely met by the use of timber cleared from the Project footprint or reuse of packing timbers.

The Onshore Pipeline contractor continued to work with Papua New Guinean groups to establish sawmills near tree felling activities, which would enable timber to be milled and made into support structures for use during the pipeline construction.

Meanwhile, topsoil is being actively managed and preserved for the reinstatement phase. Refer to *Section 10.5 Reinstatement* for further details.

11.3 Erosion and Sediment Control

The maturity of erosion and sediment control measures varies throughout the Project according to the progress of site activities in each area. Some contractors are still finalizing erosion control plans, while others have geotextile and silt fencing on-site ready for installation. Some contractors already have fully installed and operational sediment control systems in place.

Pre-clearance surveys are used to evaluate whether temporary and/or permanent erosion control measures are required. Erosion and sediment control devices require ongoing monitoring and vigilance, particularly following frequent or heavy rain events. The inspection and assessment of erosion and sedimentation control devices is incorporated in contractors' verification assessments and forms part of toolbox talks and environmental awareness training.

The Komo Airfield site provides an example of extensive earthworks that require comprehensive erosion and sedimentation control devices within difficult terrain that has high rainfall. Control measures employed include the use of large engineered silt basins to capture sediment draining from the Komo Airfield worksite, complemented by diversion banks (berms), sand bags, silt fences and brush barriers to slow and capture localized sediment.

The Upstream Infrastructure contractor has appointed a designated team to review and maintain erosion and sedimentation control measures along the creeks and drains from the Gobe to Mubi River Road. As the rain in Gobe is both frequent and heavy, erosion and sedimentation control measures need to be monitored and maintained.

Plate 11.3 – Settling pond at the LNG plant site

Plate 11.4 – Example of a sediment basin used for erosion control

The Onshore Pipeline contractor is also minimizing the risk of erosion during tree felling activities. For example, all root systems and stumps are left intact after felling until the clearing and grading crew initiate activities.

11.4 Acid Sulfate Soils

'Acid sulfate soils' are soils or sediments that contain elevated levels of metal sulfides, principally in the form of pyrite. When exposed to air through means such as drainage or site excavation, pyrite is oxidized and can generate sulfuric acid. This can result in the acidification of soils, surface water and groundwater. Run-off and leachate from acid sulfate soils can adversely affect aquatic communities, agricultural practices and engineering works.

Acid sulfate soils are typically found in marine or estuarine settings, often as soft, dark grey to dark greenish-grey muds. As Project activities will occur in areas likely to have acid sulfate soils, management plans are being developed and fieldwork will be undertaken to test the soils.

In November, an Acid Sulfate Survey team was mobilized. Specialists sampled soil at the Omati Landfall Site for the onshore pipeline and at four other sites on the ROW. Samples were sent for laboratory analysis and the results will be reported in the first quarter 2011.

12.0 CULTURAL HERITAGE

The Project recognizes and values the rich cultural heritage associated with the Project region. The Project's Cultural Heritage Management Plan, overseen by the Project's Archaeologist, includes supervision during pre-construction surveys, 'salvage programs' for managing known sites of archaeological significance and procedures for managing 'chance finds' during Project work of any description.

The objectives of the Project Cultural Heritage Management Plan, which forms part of the ESMP (refer to Figure 3.1), are to:

- Avoid known cultural heritage sites, including both archaeological sites and oral tradition sites where necessary and practicable.
- Where avoidance is not possible, manage cultural heritage sites in consultation with the Papua New Guinean Government and landowners.

12.1 Salvage Programs

In August, 2010, the Director of the Papua New Guinea National Museum and Art Gallery advised that the Project's obligations under the Permit for Salvage Archaeology for the Upstream Scope of the PNG LNG Project were deemed complete on the condition that additional surface feature mapping be undertaken of a significant cultural heritage feature that had been identified from surveys conducted during 2008 to 2009 for the Environmental Impact Assessment.

During this quarter, a cultural landscape mapping exercise was undertaken. This included site interviews with local elders to determine the oral history of the complex, including details of its composition, construction and use. In addition, visual inspection and detailed surface feature mapping of the physical evidence for cultural features was also undertaken.

With the HGCP salvage program completed, any future cultural heritage issues will be managed through the Chance Finds Protocol.

12.2 Pre-Construction Surveys

Three oral tradition sites were found on the onshore pipeline ROW during cultural heritage surveys prior to construction:

- A former burial site or *'siri hole'*.
- A *'diado'* pool with an ancestral story.
- A Bamboo plantation, marking the location of a burial platform for a female ancestor at Koiapu.

Taking measurements of *'wai pabe gana'*

Mapping the HGCP Cultural Complex

The detailed mapping exercise for the warrior camp at the HGCP site included identifying and recording dimensions and accurate GPS locations for the settlement and landscape features such as historic building structures, other structures, depressions, ditches, fences, surface artifacts and ethnobotanical features in cases where plants have been used by humans.

Interviews revealed that the area was formerly used by warriors during fighting and consisted of four main men's houses *'balamanda'*, a guardhouse *'wai pabeanda'*, sharpened wooden picket fences *'tigi gana'* and war ditches. The men's houses were positioned in strategic locations on ridges with views over the territory and were contained within an area demarcated by ditches and fences. The houses would have accommodated between 100 and 120 warriors from the various clans who fought together during a period of extensive inter-tribal conflict in the early 1960's. Women and children were situated far from the complex on Tuguba – Taguali clan land known as Payepaye. The mens' houses were primarily a place to rest; they were not meeting places as portrayed in other cultures around Papua New Guinea. According to the elders interviewed, all strategizing and planning for battles took place in the guardhouse at the center of the complex and warriors performed certain war rituals there as well. These practices included using ritual water and a pig's liver to protect warriors from being killed by magic from the enemy and using ginger to predict the outcome of battles. The guardhouse was also significant as it was the final line of defense in the formal fighting zone when a settlement came under attack.

There were also two oral tradition sites off the ROW including a rock shelter or *'korpu'* located 20 meters (66 feet) from the boundary of the ROW which is still in use, and a former burial site located 35 meters (115 feet) from the boundary of the ROW.

12.3 Incidents of Disturbance to Known Cultural Heritage Sites

There have been no incidents of known cultural heritage sites being disturbed during this quarter, or on the Project-to-date. During this quarter, no near-miss incidents were recorded.

12.4 Chance Finds

In compliance with the Chance Finds Protocol and to assist with the ongoing earthworks monitoring, further archaeological and cultural heritage spotters were recruited, trained and stationed at various locations. Chance finds are identified from pre-clearance surveys and from worksite activities (refer to Table 12.1). In the case of artifacts, these have been collected and registered and will be provided to the Papua New Guinea National Museum and Art Gallery.

Area-specific cultural heritage training is being provided to personnel working at the Komo Airfield site. Refer to *Case Study Four: Komo Airfield Cultural Heritage Training* for further information.

Table 12.1 – Cultural heritage chance finds during this quarter

Location of Find	Type of Find
Komo Airfield	Waisted stone blades (2 found at the runway, 1 at the stockpile).
	Stone axe-adze.
Heavy Haul Road	Burial site (Mapua area) 7 meters (23 feet) to the east of the proposed Heavy Haul Road centerline.
	Burial site 5 meters (16 feet) to the west of the proposed Heavy Haul Road centerline.
HGCP, Plant and Quarry	Ritual round stone.
	Ritual grinding stones.
	Waisted stone pounder.
	Waisted tang blade implement (part of the blade of a tool that extends into the grip).
	Waisted stone blade.
	Stone mortar.
	Chert/flake.
	Flint stone axe blade.

The traditional men's house *'Anda balamanda'*, warriors' bathing site and dancing site *'Mali hama'* were all located within 200 meters (656 feet) of the fenceline of the southern tip of the Komo Airfield, near Eanda. These are culturally significant sites where specific activities are performed. The men's house is traditionally a gathering place to discuss issues related to the clan, fighting, pig killing and the like. Women and children are not allowed in, or near, the men's house. The nearby warriors' bathing site is where all young, unmarried warriors bathe and dress in their traditional *'wigmen'* hair and headdresses. The dancing site is used for special feasts, including pig killing with the exchange of pork and other food among the Maia clan members.

Plate 12.1 – Traditional dancing site

Plate 12.2 – Burial site at Mapua

Pre-clearance surveys revealed two burial sites and graves near the proposed Heavy Haul Road for Komo Airfield at Mapua. In both cases, the graves are near a homestead and a Huli ditch separates the grave from the existing road. The custodians of the graves gave verbal consent to relocate the sites and a plan will be developed in compliance with the Project's protocol for compensation and site relocation procedures.

A polished axe-adze, 7 centimeters by 4 centimeters (approximately 3 inches by 2 inches) was found near the Komo Airfield in an area of earthworks. As a result, its provenance could not be determined. Prior to the initiation of site works, the area was covered in secondary forest, indicative of fallow land and it can be assumed that the axe-adze may have been lost during garden clearing. Generally, axe-adzes have high antiquity values in Papua New Guinea especially in terms of their origin, trade and use. Axe-adzes, as well as other stone implements such as tanged blades, waisted blades, mortars, pestles and clay pots, were produced in different locations by specialists and were traded through well-established trade links.

Plate 12.3 – Axe-adze

The waisted stone blades, *'arapake'* in Huli, found at the HGCP site and Komo Airfield site are traditionally used for cutting down big trees, clearing bush for gardening and used for building houses and fences. It is believed that the blades were disregarded and left unused since the early 1940's. This is because first contact with people in the Huli territory was made in the 1930's and by then steel axes and bush knives, along with other steel tools, had generally started to supersede the use of stone tools in this area. However, it is possible that the stones were brought to the sites more recently as such implements can be used by women gardeners to grub and build sweet potato mounds. They could also have been brought in by early settlers as an implement to chip away trees for household purposes.

Waisted blades existed during the late Pleistocene period (beginning 2.6 million years ago and ending 12,000 years ago) or early Holocene period (starting 12,000 years ago to present) and are of value in the categorization of the technology of stone tools. Therefore, they have been salvaged and will be catalogued as part of the collection made during construction works at Komo Airfield. These finds are considered to form part of a larger archaeological site.

Plates 12.4 a-c – Waisted stone blades from Komo Airfield in the (a) western runway area (b) central runway area (c) spoil stockpile

CASE STUDY FOUR:
KOMO AIRFIELD CULTURAL HERITAGE TRAINING

Cultural heritage can be defined as 'the cultural history of a region or of a people, or the engagement of people with their customary practices (particularly through specific sites) in the past and in the present'.

In Papua New Guinea, cultural heritage is divided into two types (defined in the Cultural Heritage Management Plan):

- An archaeological site: a location with physical evidence of past cultural activity visible on, or in, the ground (for example, stone tools, structural features such as ditches and postholes, garden areas and burial sites).
- An oral tradition site: known by a person or people through their cultural historical stories (for example, ritual sites, sacrificial sites, ceremonial sites, burial sites and old settlement sites).

Sites are not always easy to identify, so worker training raises awareness of what the worker should look for in the field.

At the Komo Airfield, area-specific cultural heritage training is being provided to give workers an understanding of:

- The reasons why cultural heritage management is so important to the Project.
- The types of cultural heritage sites and their importance to the people of the Project area, the Papua New Guinean Government and international stakeholders.
- How the Project can potentially impact cultural heritage.
- How implementing site mitigation measures avoids damaging artifacts.
- Where to get more information.

Common archaeological sites found within the Komo Airfield area are burial sites known as '*Homali*'. '*Homali*' sites consist of either a primary burial site in the form of a grave or pit which may, or may not, contain human remains, or a secondary burial site where human remains have been reinterred after being exhumed from a primary burial site. Remains may be placed in some form of small shelter/hut or, in older style burials, on a platform.

The following images show that it can be very difficult to identify sites, in particular primary burial sites; therefore, the training becomes valuable for site workers. Prior to the commencement of works, all known burials in the respective Project footprint area are relocated. This process is managed in consultation with relevant landowners.

Primary burial site

Primary burial site where remains have been disinterred, HGCP

Modern secondary burial site

One of two burials at a burial site identified during the survey of the Komo Airfield area – the skeletal remains have been placed in the small shelters.

CASE STUDY FOUR:
KOMO AIRFIELD CULTURAL HERITAGE TRAINING

Dense high grasses would have made it difficult to identify this cultural heritage site without local knowledge

Burial site, Komo Airfield area

Local clan community members are the most important source of information for locating and characterizing oral tradition sites. Without their knowledge many sites would go unidentified. For example, the oral tradition sites identified during the Komo cultural heritage survey included:

- Ritual sites 'Dama Anda', both past and current (where offerings are made to spirits and ancestors).
- Ritual stone sites '*Liruanda*'.
- Pig kill sites (in honor of ancestors) '*Dama Nogo Baga*', '*Nogohama*'.
- Sacred ponds '*Ibitiri*', '*Iba Kuyama*'.
- Former men's houses '*Balamanda*'.

Pig kill (sacrificial) site 'Nogohama', Eanda

This site is part of a larger complex that includes 'Mali Hama', 'Balamana', 'Liruanda', 'Dama Anda' and 'Dama dindiainya' sites, some of which were damaged when a church was constructed on them.

Ritual site 'Dama Anda'

Pork offerings were made to the land sprits. Cordyline Trees (circled) mark where the ritual took place. Such ethnobotanical markers are common in the highlands region.

Sacred pond 'Iba Kuyama' site, Komo

The site is a waterhole where pigs were sacrificed to the spirits to ensure good fortune and well-being.

Old ritual site 'Dama Anda'

Hoop Pine at the HGCP site

The tree marks the location of a spirit sacrificial site.

Ritual site 'Tawe Tawe'

Offerings of cooked food and pig offal were made before a ceremonial dance was performed.

13.0 STAKEHOLDER ENGAGEMENT

To ensure its success, the Project recognizes that it must establish and maintain positive community relations through effective communication and consultation. Both the Project and its contractor companies are responsible for engaging and collaborating with communities.

13.1 Government

The Project Management team meets regularly with key Papua New Guinean Government Ministers, and the Government Interface team meets with Government agencies, to keep them informed of the Project's status and coordinate solutions to problems that may affect the Project's schedule. During this quarter, there were a number of changes at Ministerial level in the Papua New Guinean Government. The Project continues to work effectively with representatives at all levels of Government.

13.1.1 People Processes

The Project continues to work with the Papua New Guinean Government to ensure agencies such as the Department of Labour and Industrial Relations and Immigration and Citizenship Service (part of the Department of Foreign Affairs) have the processes and resources to manage the large number of people required for successful Project completion.

During this quarter, the Government made several procedural changes to enable the Project to more readily mobilize labor and meet schedule commitments. Restricted Entry Visas, Red Job Exemptions, Hub Processing Centers, and Institute of Engineers Papua New Guinea registration changes were also introduced in this quarter.

Restricted Entry Visas are a short-term visa to cover entry for persons coming in under a working resident visa but for short or periodic entries. This change was approved by the Government to take effect from the first quarter 2011.

Red Job Exemptions allow contractors to fill positions, subject to certain conditions, previously reserved for only Papua New Guinean citizens.

Hub Processing enables Papua New Guinean consulates to accept bulk packages of Work Residential Employment Visa applications from offshore locations such as Manila, Kuala Lumpur, Beijing and Brisbane. This will allow visa applicants to either have visas affixed to their passport in the Hub country, or if not residing in one of the Hub countries, they will be allowed to travel under an Authority to Travel document and have the visa affixed to their passport once they arrive in Papua New Guinea.

The Institute of Engineers Papua New Guinea introduced a streamlined process for the registration of engineers and technicians. This will assist contractors with reducing administrative requirements.

13.1.2 Materials and Tax

In addition to local purchases, the Project will import substantial quantities of materials required to construct the LNG plant, pipelines and other facilities. The Project continues to work with key government agencies, including the Papua New Guinea Customs Service, Internal Revenue Commission, National Agriculture Quarantine and Inspection Authority, as well as some private sector operators, to improve current Project procedures to ensure they meet Government requirements and actively facilitate the movement of materials in a timely manner to meet the Project schedule.

The Gas Agreement provides duty and tax concessions for the Project and discussions with Government to establish processes for implementing these concessions is continuing.

The Internal Revenue Commission has advised that they will refund contractor Goods and Services Tax claims within 30 days of receipt of submissions that meet their requirements. The Internal Revenue Commission has also established Key Client Managers and a priority service for the Project and contractors, with dedicated phone numbers and assigned officers.

13.1.3 Infrastructure and Government Support

Successful construction activities rely on efficient mobilization of materials and equipment into the areas where they are required. The Project is working with Government agencies, such as the Department of Lands and Physical Planning and the Department of Works, to facilitate the logistics required to achieve this.

Successful engagements in transport sector infrastructure have included the execution of Investment Agreements between the Project and Government departments (for example, the Department of Works and the National Airports Corporation). This involves Project funding for short-term repairs of the Northern Logistics Route, including the refurbishment of bridges and the upgrading of the Tari Airport.

Discussions have also been initiated with the National Airports Corporation and Papua New Guinea-based airline operators, to develop strategies aimed at the efficient movement of EPC contract laborers during the peak period of the construction.

During this quarter, the Government Interface team coordinated the start of the Urgent Repairs Program for the Highlands Highway from Lae to Mendi in accordance with the Investment Agreement between the Project and the Department of Works.

The Project also worked with contractors to develop and present to the Government the Highlands Highway long-term Repairs and Upgrade Strategy which was submitted to the Government in early December. This Strategy is intended for review and implementation by the Government after the completion of the Project's Urgent Repairs Program in 2011.

13.1.4 Advocacy

During this quarter, members of the Government Interface team facilitated workshops in the Gulf and Central Provinces and the National Capital District Commission. The Government Interface team presented an overview of the Project's scope and status and each Government team led a short overview discussion of their Province/ District organization.

The meetings continue to provide a forum to discuss the potential impacts of the Project and address any concerns raised by Provincial administrators.

Late in the quarter, the first edition of Yumi Toktok GI was published. The publication, titled literally 'You and Me talk about Government Interface', supplements meetings and workshops as another communication tool.

The Government Interface team has engaged with the newly formed Hela Province Transitional Authority. Hela will be a new Province to be established by 2012, covering most of the Project Impact Area. The Government Interface team has an open invitation to attend all transitional meetings. The first workshop was held in December.

The Government Interface 2011 provincial and national advocacy plans have been developed and are ready to be implemented. This will involve workshops and meetings with Provincial administration in the Project Impact Area and National Government departments impacted by the Project.

13.1.5 Benefits Assurance Delivery

Plate 13.1 – Seed capital distribution to landowners

The Government Interface team continued to work with the Department of Petroleum and Energy and the Department of Commerce and Industry to facilitate Government processes for meeting commitments outlined in the Benefits Sharing Agreements.

One of the commitments from the Government included in the Benefits Sharing Agreements is to pay 120 million Kina (US$45.4 million) as Business Development Grants or seed capital to landowners. These payments were to be made by mid-2010 and were for the start-up of Lancos to participate in the early Project works. The Government has encountered delays in meeting this timeline.

To expedite these payments, representatives from the Project's Government Interface, Lanco Acceleration and National Content teams have met on a weekly basis with key Government agencies - the Department of Commerce and Industry and the Department of Petroleum and Energy.

Given the level of interest and expectations of the Lancos (1,133 expressions of interest received totaling over 3 billion Kina [US$1.14 billion]) and pressure from within the Government, the Department of Commerce and Industry arranged a number of workshops for all license areas to facilitate Memorandums of Understanding between Lancos competing for the Business Development Grants. A further challenge included developing and explaining options for Lancos to invest their seed capital where the amounts awarded were too small to foster start-up companies.

Following the Government's 31 million Kina (US$11.7 million) distribution in September, 2010, a further 54 million Kina (US$20.4 million) was distributed to landowners just prior to Christmas, leaving 35 million Kina (US$13.2 million) outstanding.

A challenge facing the Project is how to mitigate and manage landowner expectations following distribution of the Government's Business Development Grants.

13.2 Communities

Establishing and maintaining positive community relations through effective communication and consultation is both a Project and contractor responsibility.

While elements of constructive and respectful engagement are inherent in all the social management plans, two key plans guide engagement with communities, the Project's framework Stakeholder Engagement Plan and the Contractor Community Engagement Management Plan. Stakeholder and community engagement is led through the Project's Socioeconomic team.

13.2.1 Engagement Activities

The Project's IMS helps manage and track stakeholder engagement activities, enabling greater integration between different community-oriented sections of the Project. During this quarter, data migration to this system was 85 percent complete and worker training in its use was well advanced.

Community engagement remained a focus during the quarter. Communities have expressed appreciation for the Project teams who visit their sometimes-remote villages to consult with them, share information or work together towards community development objectives. Dialogue with communities is underway almost every day in every part of the Project Impact Area.

Plate 13.2 – Traffic and Construction Safety Awareness Campaign

Hides and Komo

In Komo, the Socioeconomic team completed the Project's Traffic and Construction Site Safety Awareness Program. A total of 21 community engagements were undertaken, with 2,290 people registering their attendance.

Traffic safety road shows at schools and churches within the Hides and Komo communities were a particular highlight, with careful consideration given to ways of reinforcing safety messages. For example, a safety coloring contest was held for the children at Komo Catholic Elementary School. Children were provided with various pictures of construction equipment with hazards written in Huli, and prizes were awarded for the top three pictures in each class.

A few weeks later, a refresher course on traffic safety was conducted. All the children remembered the road show and were able to answer questions on the hazards of the machinery.

Plate 13.3 a–b – Coloring contest participants and one of the winning entries

Wellpad Spineline Clan Committee

Engagement activities on the spineline connecting the proposed wellheads have progressed. Thirteen clans who have land along the spineline have been identified as having an interest in Project activities. In November, the Socioeconomic team invited representatives of these clans to form a committee. The Clan Committee had their first meeting in early December, with the purpose being to enable constructive two-way dialogue between the Project and the community about the spineline. Clan committee members are able to use this forum to obtain updated information about Project activities to share with their communities and also voice their opinions (both positive and negative) with Project representatives.

Blasting Awareness

Quarry blasting activities commenced in November. The Project has established an awareness program, which provides communities near blast sites with information about blast timing, duration and location. The purpose of these engagements is to give people advance notice of blasting and answer any questions they may have. The Project team also uses these engagements to help guide community members and their animals safely outside the blast buffer zone before the blast occurs.

Pipeline (North and South)

First-round engagements for onshore and offshore (Omati River section) pipeline construction activities began in October. These engagements provide communities, schools and churches with general information about the Project and pipeline construction activities. Information is also provided, where relevant, on the Omati Landfall Site and on dredging and trenching work anticipated later in 2011.

During this quarter, consultations stretched from Goare at the southern tip of the Delta to Homa towards the Hides area, which covered more than 250 kilometers (almost 160 miles) of the pipeline route. Also during the quarter, 53 community engagements were undertaken, with a total of 2,459 people registering their attendance.

Two teams carried out these engagements. The Pipeline North team focused on communities between Kantobo and Hides. This quarter, the Pipeline North team completed engagements with communities between Tamadigi and Moro. Meanwhile, the Pipeline South team focused on communities between Goare and Gobe. This quarter, the Pipeline South team completed engagements with communities between Goare and Kaiam 1/Kaiam 2.

The Pipeline South team also provides information about offshore construction activities as part of their engagements with Goare, Bisi and Omati (the coastal communities in the area).

Information has been presented to communities verbally and using posters, copies of which are provided in the form of A4 handouts for community members to take home and share with their families, communities, classes or congregations. The engagement program is ongoing.

Plate 13.4 – Community Engagement at Bisi

LNG Plant Site

During the quarter, 27 formal community engagements ensured ongoing communication with the four LNG plant site villages (Papa, Lea Lea, Porebada and Boera), with 897 people registering attendance. These engagements were primarily focused on traffic and road safety awareness in both communities and schools.

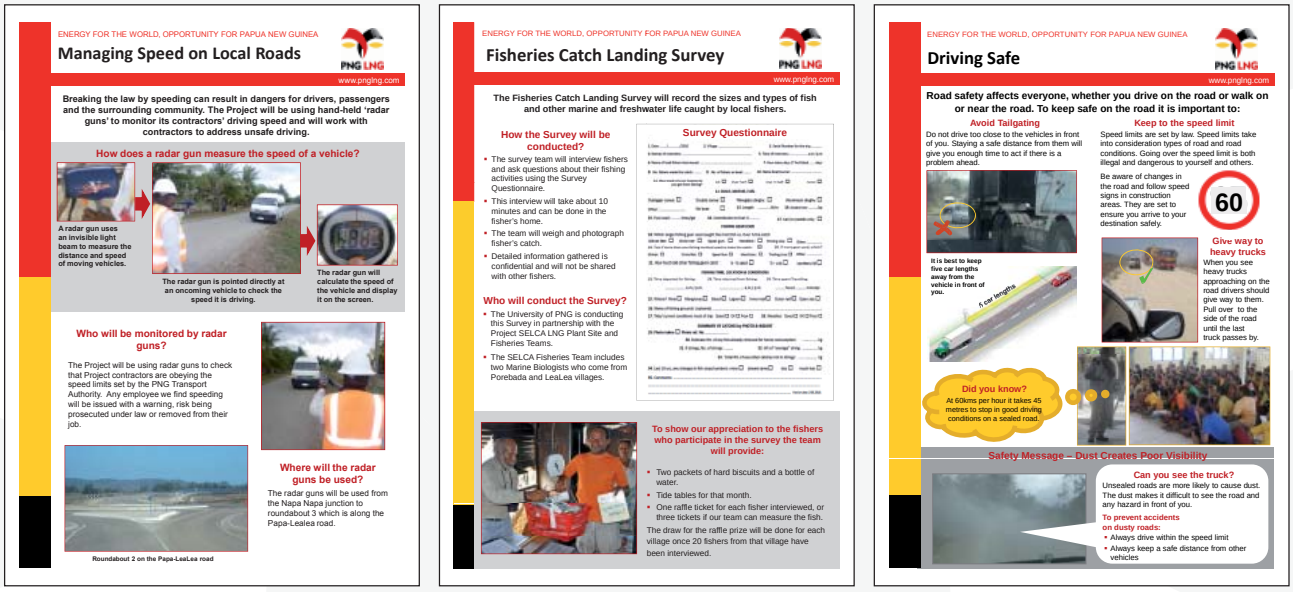
With the nature of many of the engagements changing within the four LNG plant site villages, the Socioeconomic team has been researching the potential for readily accessible information sources such as radio, a regular newsletter and the use of community notice boards for flagging upcoming construction activities. The team has also been integrating with other groups, such as those working with fisheries, to assist with activities where the communities are involved. An example of this is the community fisheries survey conducted in November.

Plate 13.5 – Socioeconomic team member assisting with community fisheries survey in Porebada

Radio Survey: Radio surveys have been conducted across all four LNG plant site villages with 225 respondents. This information will be analyzed with a view to building radio campaigns around a range of Project-specific messages to be evaluated through formal focus groups and follow-up surveys. The surveys will continue in January, 2011.

Community Notice Boards: A series of Road Safety posters (Figure 13.1) have been created and posted on community notice boards. Until Porebada notice board locations are established, the Socioeconomic team has negotiated the distribution of flyers through Porebada churches.

Figure 13.1 a-c – Examples of the Road Safety poster series



Stakeholder Engagement Newsletter: Intended to be a monthly newsletter (refer to Figure 13.2), the first copy of the LNG plant site news is scheduled for distribution in January, 2011. This newsletter showcases information from the LNG Plant and Marine Facilities contractor, the Offshore Pipeline contractor, the Socioeconomic team and the community.

Figure 13.2 – Draft community newsletter

Future editions will focus on the construction of the jetty, desalination plant, road safety messages and the work of the team in schools.

Traffic Safety Awareness: Three engagements, involving 488 students and their teachers, were held at LNG plant site schools and focused on teaching local children the importance of using roads safely.

Schools Engagement: Prizes of school bags, dictionaries, atlases, stationery and exercise and reading books were given to the top 100 academic students of the high, primary and elementary schools in the Project impacted villages. Redscar High School students were awarded 17 prizes.

Community Drama: A drama group, made up of representatives from each of the LNG plant site's four impacted villages, has been established to perform Project-related messages within the LNG plant site area. The script is drafted by the community, which ensures its relevance to the intended audience. Preparation and rehearsals were carried out through November and December, and two internal performances delivered. Public performances are scheduled for January, 2011.

Plate 13.6 – Redscar Graduation Prize acceptance – Mr. Kohu Kanaro (Principal)

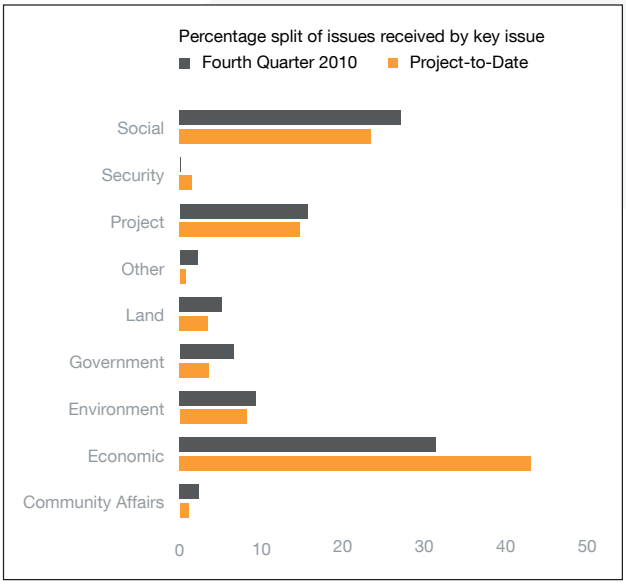
Issues Identification

Project engagement with communities and other stakeholders has helped identify a number of concerns. The most recent concerns raised by stakeholders are identified in Figure 13.3.

In a project of this size, with many worksites and tens of thousands of community stakeholders, there is potential for disputes. For this reason, the Project is highly responsive to community issues and often receives positive feedback from communities about issue resolution. Two examples of these from the LNG plant site area are:

- The facilitation of Government compensation payments in a timely manner to landowners with gardens along the road corridor.
- The reduction of waste generated at community meetings through education and the identification of alternative resources.

Figure 13.3 – Comparison of issues received by key issue



13.2.2 Media

The Project issued its third PNG LNG Quarterly Environmental and Social Report covering activity from July to September, 2010. It was published on the Project website (www.pnglng.com) as well as in hard copy for distribution to a wide network of stakeholders. Additionally, the Executive Summary was distributed in Tok Pisin and English through a suite of national papers including the *Post Courier, The National, Wontok and Independence Magazine*.

14.0 ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
CDSP	Community Development Support Plan
CIC	Community Investment and Contributions
Church	Evangelical Church of Papua New Guinea
DEC	Department of Environment and Conservation
EPC	Engineering, Procurement and Construction
ESMP	Environmental and Social Management Plan
HGCP	Hides Gas Conditioning Plant
HIV	Human Immunodeficiency Virus
IESC	Independent Environmental and Social Consultants
iHDSS	Integrated Health and Demographic Surveillance System
IMR	Papua New Guinea Institute of Medical Research
IMS	Information Management System
Lanco(s)	Landowner Company(Companies)
LNG	Liquefied Natural Gas
MCCP	Malaria Chemoprophylaxis Compliance Program
MCP	Malaria Control Program
PNG	Papua New Guinea
ROW	Right of Way

APPENDIX 1 – PROJECT CONTRACTORS AND WORK SCOPES

Table A1.1 – Summary of contractors and work scopes

Contract	Description of Work Scope
Upstream Infrastructure *Clough Curtain Brothers Joint Venture*	• This is a program of infrastructure upgrades in advance of main construction activities in the Gulf Province and Southern Highlands Province. • Camps – Gobe, Oiyarip (new camps), Nogoli (existing camp extension), IDT10 (Moro Camp refurbishment). • Construction of a landfill site at Hides.
LNG Plant Early Works *Curtain Brothers Papua New Guinea Limited*	• A program of early works at the LNG plant site. • Upgrade of existing road from Motukea Island to LNG plant site. • New Bypass Road (re-routing of existing public road, which transects with the LNG plant site).
Telecommunications *TransTel Engineering*	• Installation of a telecommunications system to support construction and operations.
Offshore Pipeline *Saipem*	• Construction and installation of the offshore pipeline from Omati River landfall to LNG plant landfall site. • Pipeline tie-in at Omati River landfall and shore crossing at the LNG plant landfall site.
LNG Plant and Marine Facilities *Chiyoda and JGC Corporation*	• Onshore aspects including LNG trains, condensate storage tanks, LNG storage tanks, boil-off compressor, utilities, flare, waste disposal area, laydown area, permanent accommodations, construction camp, heliport and telecommunications. • Marine aspects including LNG/condensate export berths.
Hides Gas Production Facilities and Hides Wellpads *CBI Clough Joint Venture*	• HGCP processing facilities. • Construction camp. • Hides wellpads.
Onshore Pipeline *SpieCapag*	• Onshore gas/condensate/mono ethylene glycol pipelines, flowlines, spinelines, above ground facilities (such as mainline valve stations, meter stations, pig launcher/receiver stations, cathodic protection equipment), power and optic telecommunications cables. • Vehicle washdown stations. • Construction camps.
Komo Airfield *McConnell Dowell and Consolidated Contractor Group Offshore*	• Airfield and supporting infrastructure.
Associated Gas Facility Upgrades *Aker Solutions*	• Upgrades and modifications to Kutubu Central Processing Facility and Gobe Production Facility including gas dehydration, metering and condensate handling.
Nabors Drilling International Limited	• Drill 12 new wells and execute two workovers.
Permanent Office and Housing Company *(to be determined)*	• Construction of office accommodation with housing.
Port Moresby Construction Training Facility *Eos*	• Construction of training premises.

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