

Esso Highlands Limited



Papua New Guinea LNG Project  
**Community Support Strategy**  
**Attachment 2:**  
**Community Development Support Plan**

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## APPENDICES

Appendix 1 – Rationale for the Community Development Support Plan

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## ACRONYMS

Acronym	Definition
AIDS	Acquired immune deficiency syndrome
AusAID	Australian International Agency for Development
CDSP	Community Development Support Plan
CLDC	Community Learning and Development Center
CSS	Community Support Strategy
HIV	Human immunodeficiency virus
IFC	International Finance Corporation
LNG	Liquefied Natural Gas
NGO	Non-governmental organization
OLPLLG	Organic Law on Provincial and Local Level Government
PNG	Papua New Guinea
WDC	Ward Development Committee

## 1.0 THE COMMUNITY DEVELOPMENT SUPPORT PLAN OVERVIEW

The Papua New Guinea (PNG) Liquefied Natural Gas (LNG) Project (The Project) is an integrated development that includes gas production and processing facilities in the Southern Highlands and Western Provinces of PNG, as well as liquefaction and storage facilities with capacity of 6.6 million tons per year. Over the life of The Project, more than nine trillion cubic feet of gas will be produced and sold. The investment for the initial phase of The Project, excluding shipping costs, is estimated to be over US\$15 billion.

Unlocking value from the extensive gas resources of the Southern Highlands region has the potential to benefit PNG communities by:

- Boosting Gross Domestic Product and export earnings;
- Providing a major increase in government revenues and royalty payments to landowners;
- Providing much improved transportation and communications infrastructure in remote areas of the country;
- Creating employment opportunities during construction and operations; and
- Providing a catalyst to further gas-based industrial development.

It is anticipated that The Project's benefits will spread throughout PNG's economy as the Government applies earnings from its substantial share of Project revenues to social and economic programs. These programs have the potential to improve the quality of life of Papua New Guineans by reinforcing essential services and enhancing the country's productivity. Benefits will also flow through the economy as the wages of Project staff are spent and as national suppliers provide a range of goods and services to The Project. Landowners stand to gain from Project royalties and equity dividends through the Benefit Sharing Agreements as defined in the *Oil and Gas Act (1998)* and from improved social and economic infrastructure.

The PNG LNG Project is committed to implementing and operating The Project in a manner that complies with all applicable national laws and regulations of PNG. The Project will also comply with the terms of applicable Performance Standards as set out by the International Finance Corporation in 2006. One of these Social Performance Standards (PS), PS 7: Indigenous Peoples, typically applies to "*social groups with identities that are distinct from dominant groups in national societies...often among the most marginalized and vulnerable segments of the population*". However, in recognition of the unique characteristics of PNG's society, The Project Lenders have determined, and The Project has agreed, that PS 7 should apply to all the residents of PNG impacted by The Project. In this context, the primary applicable objective of PS 7 is "to avoid adverse impacts of projects on communities of Indigenous Peoples, or when avoidance is not feasible, to minimize, mitigate or compensate for such impacts, and to provide opportunities for development benefits, in a culturally appropriate manner".

The Project has developed this Community Development Support Plan (CDSP) with the purpose of mitigating potentially harmful effects and promoting the development of conditions conducive to enhancing the livelihoods of communities in The Project Impact Area. More specifically the CDSP describes how The Project intends to develop and implement a range of community-focused initiatives to satisfy the language and intent of PS 7. In addition, the CDSP will support compliance with Company policies as well as relevant PNG laws.

It is useful to note that although there are more than 100 communities within the area deemed to be The "Project Impact Area" or PIA, these communities will not be affected equally or in the same fashion by The Project. The Project's impact on some communities will be primarily as a source of transient local employment income, for example, during

pipeline construction. In these circumstances, the primary impact on the community will be an infusion of employment related income, with both positive and, perhaps, negative implications. Other communities, situated closer to major Project facilities, may not only receive this infusion of cash through employment but also may have other opportunities and/or issues, related to the permanent nature of these facilities. In these latter, more heavily affected situations, numbering far fewer than 100, the CDSP will allocate more funds and resources to ensure that potentially harmful social effects are mitigated and positive opportunities are identified and developed.

This Community Development Support Plan (CDSP) is one of six Company Social Management Plans. Other plans, which may be referenced herein, address Stakeholder Engagement, National Content, Community Health, Safety and Security, Resettlement Policy Framework and Contractor Management.

### **1.1 Objectives**

The objectives of the CDSP are to:

- Avoid or reduce the risk of adverse social impacts on PNG communities during Project construction and production; and
- Provide opportunities for sustainable development benefits in a culturally appropriate manner.

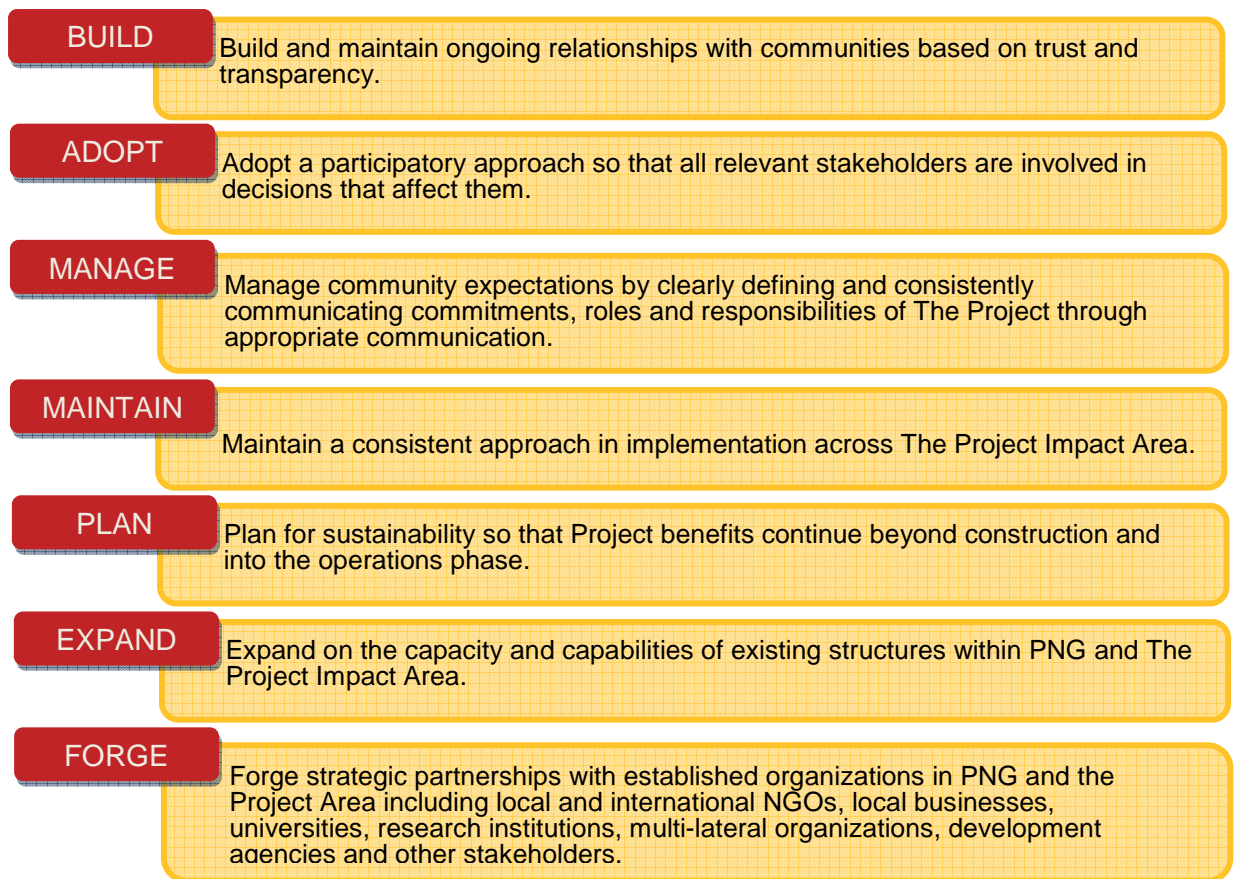
### **1.2 Implementation Outcomes**

The CDSP will mitigate business risk as well as contribute to improvements in:

- The ability of communities affected by The Project to anticipate, understand and deal with potential harmful effects;
- The ability of communities to take advantage of positive opportunities afforded by The Project, including increased local economic activity; and
- Self-reliant livelihoods.

### **1.3 Community Development Support Principles**

Taking into account international best practice and guidance such as the International Finance Corporation's (IFC) Performance Standards, the CDSP is guided by the following principles:



**Figure 1-1: Community Development Support Principles**

## 1.4 Approach

The CDSP is based on a participatory, community-based approach, which uses existing and functional systems and structures to encourage community participation and ownership. This enables community programs and projects to be defined and implemented in a culturally appropriate manner, which take into account local views of development.

In order to promote sustainability, The Project's approach will allow communities to take a more active role in their own development over time as they, and local level governments, benefit from the opportunities provided by Project revenues when operations begin.

The Project will position itself in a supportive rather than a primary role in local development. This will enable local institutions to progressively assume greater responsibilities over time. The Project will work with the government and local communities to contribute to achieving common goals.

## 1.5 Interface with Other Plans

The CDSP interfaces with other Company Social Management Plans as shown in Figure 1-2.

Figure 1-2: Community Support Strategy Action Plan and Supporting Plans



## 2.0 METHODOLOGY AND KEY FINDINGS

The CDSP is the result of extensive analysis and research. The CDSP builds on The Project's Social Impact Assessment, Health Impact Assessment as well as consultation work conducted for other Project-related plans including Resettlement and Stakeholder Engagement. In preparing this Plan The Project conducted a number of technical assessments to understand community assets and vulnerabilities, as well as to identify development opportunities and lessons learned. Key elements of these assessments are outlined below. A summary of the methodology and how the key findings were used in the development of the CDSP are presented in Appendix 1.

### 2.1 Livelihood Assessment

The Project conducted livelihood assessments to acquire general socio-economic information. The fieldwork team conducted the assessments over an eight-month period in partnership with Land and Community Affairs personnel. The assessments took place across 20 villages, representing a cross-section of The Project Area, and including consultation with more than 600 people. A summary of these livelihood assessments is contained in Appendix 1.

The assessments revealed a number of factors important to the design of this CDSP:

- Communities primarily derive their livelihoods from subsistence gardening, fishing, hunting, and harvesting of wild fruits and nuts;
- Project communities in the Gulf and Southern Highlands have a lower literacy rate (36%) than those closer to Port Moresby (81%);
- All communities are tribal and maintain unique traditions;
- Urban influence is more prominent in communities close to the LNG plant site outside Port Moresby and those near Tari in the Southern Highlands Province. These areas have better infrastructure development but they also face more pronounced social challenges including substance abuse and gambling; and
- Many households have poor financial savings practices.

The Social Impact Assessment identified a lack of access to services and opportunities due to geographic isolation and the marginalization of women and girls within the traditional culture of ethnic groups as key areas of vulnerability in The Project Area.

It is generally recognized that community development initiatives must have broad based support and participation/ownership within the community if those initiatives are to be sustained and effective over the long term. To this end, The Project has engaged several communities and groups to ascertain perceived needs and interests.

Needs expressed by the community were intricately linked to the delivery of government services, such as health, education, infrastructure and improved law and order. In particular, the following areas were identified:

- Improved access to health, water and sanitation systems;
- Support to effectively plan and implement their own development strategies;
- Programs to address social issues arising from increased economic income;
- Programs to guide effective management of income and development funds;
- Increased access to education to improve livelihoods and to generate income, especially for women and girls; and
- Activities to sustain economic growth after the construction period.



## 2.2 Local Industries Assessment

The Project conducted a review to understand the status of current industries and their sub-sectors within PNG and to identify initiatives that could contribute to sustainable economic development. It interviewed key public and private organizations, including NGOs, representing more than 15 industry sub-sectors.

Communities within The Project Area were found to rely predominantly on subsistence agriculture, supplemented through hunting and gathering indigenous fruits and nuts or artisanal fishing along the coastal areas.

The capacity of communities to produce agricultural products of consistent quality and quantity is limited. This is a common constraint for rural communities and emerging economies. This is complicated by other challenges such as poor roads, communication networks and logistics, and a lack of value-chain infrastructure such as refrigerated storage and processing facilities.

The local industry assessment suggests that support should focus on exploring private sector partnerships to develop niche agricultural markets. However, no single crop covers the entire Project Area and crops vary according to altitude and prevailing conditions. The assessment also suggests the need to find alternative technologies and innovations to improve the quality and shelf-life of products, to reduce the labor required to produce and process products, and to address the socio-cultural drivers associated with inconsistent supply and quality.

Note: Further development and optimization of agriculture in PNG will not be dependent upon development of export markets. There is ample demand for additional supply in local, regional and national markets. The potential exists to supply products to enterprises/camps associated with The Project itself with potential long-term opportunities to supply the wider market in major urban centers such as Lae and Port Moresby.

## 2.3 Local Institutional Assessment

The Project undertook a review of existing structures, programs, activities and capacity in The Project Area, and lessons learned from industry and development activities, as well as potential implementation partners.

The assessment identified several international and local non-government organizations, including faith-based organizations, contributing to the social development of communities in PNG. Their experiences reveal some key lessons and successful approaches for consideration. Some of these are:

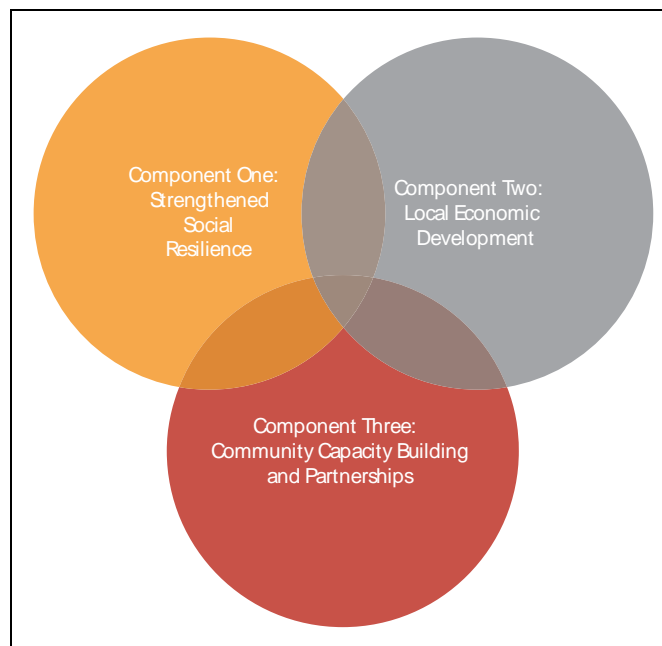
- Alignment with community needs and government priorities is essential;
- Communities should be involved in project design;
- Programs should have a holistic approach;
- Community transformation requires adequate time and resources;
- Communities should be integrally involved in implementation processes;
- Networks should be established and community structures and leadership recognized; and
- Communication should be consistent, before, during and after project implementation to maintain relationships.

### 3.0 COMMUNITY DEVELOPMENT SUPPORT PLAN COMPONENTS

Based on the key findings of the livelihood, local industry and local institutional assessments, and the experience of other oil and gas projects worldwide, the CDSP will be implemented through the following components:

- **Strengthened Social Resilience** - enabling communities to effectively respond to Project impacts and capitalize on Project opportunities to improve their quality of life. Key focus areas are education, subsistence production and social strengthening. In addition, The Project will seek opportunities to partner with Government to improve local courts (the Village Court system) and policing. Improved law and order will benefit all aspects of community life, both social and economic. The complementary initiatives contained in the Community Health Plan will address ways to mitigate Project-related health concerns.
- **Local Economic Development** - increasing income-earning opportunities and self-reliant livelihoods for communities in The Project Area. This includes stimulating and supporting local entrepreneurship, development of value-chain infrastructure and creating strategic partnerships that promote the development of commercial enterprise. Local economic development will be the largest single element of the CDSP budget.
- **Community Capacity Building and Partnerships** - supporting the efforts of communities to identify and meet their development needs in a sustainable way.

Each of these components is linked to the others as depicted in Figure 3-1.



**Figure 3-1: Linkages between Community Development Plan Components**

### 3.1 Component One: Strengthened Social Resilience

Strengthened Social Resilience encompasses both the individual capacity of community members and the capacity of community-based institutions to positively manage the changes occurring in their lives and their social environment as a result of The Project. Activities focus on:

- Avoiding or reducing the potential for adverse impacts, particularly on vulnerable groups; and
- Enhancing community members' capacity to benefit from Project opportunities, particularly by supporting vulnerable groups that have a chance to benefit equitably.

Such initiatives are intended to improve the likelihood that community members benefit from Project opportunities. For example, life skills training helps individuals make more informed choices about the use of Project wages, royalties and equity dividends. Improved law enforcement enables communities and individuals to pursue development and business goals in a safe, secure environment.

Component One focuses on strengthening communities' access to education. Livelihood assessments show that while there is a wealth of indigenous knowledge in communities, formal education levels remain low, with few groups achieving secondary education levels. Illiteracy is a barrier to accessing health, education, business and agricultural extension services or participation in decision-making through community groups. Improved access to primary and adult education can contribute to better financial management and quality of life.

Component One will also focus on building the social resilience and capacity of vulnerable groups. Among the most vulnerable are women and children. Assessments show that women are particularly disadvantaged across The Project Area. They have low levels of education and limited English and Tok Pisin, experience major barriers to participation in decision-making and the economy, and suffer poor health, including high maternal mortality and low-life expectancy. The disadvantages faced by women contribute to high levels of malnutrition and mortality among children.

Studies globally show a direct correlation between women and girls' education and development outcomes. Women with improved literacy and numeracy tend to produce more crops, have improved pre- and post-natal health and enjoy a better quality of life. Therefore, the education program in Component One will focus on increasing women and girls' access to education. Maternal-child health issues are addressed under the Community Health extended benefits program outlined in Appendix 2.

Another significant vulnerable group is isolated communities. Component One will seek to reach Project Impacted communities identified in the Social Impact Assessment, including those in isolated regions.

#### 3.1.1 Activities

Proposed activities include:

##### 3.1.1.1 Strengthened Social and Cultural Systems

###### Strengthening Village Courts

Component One involves participating in existing programs in partnership with the government with the aim of renewing and improving the function of the village courts in The Project Area. It is anticipated that these activities will:

- Support government efforts to appoint and gazette village courts and officials;
- Support training and mentoring of village court magistrates;
- Undertake community awareness and community engagement on the function and role of village courts; and

- Strengthen links between provincial administration, local level governments and village court magistrates.

### 3.1.1.2 Improved Access to Learning and Education

#### Functional Literacy and Life Skills Training

The CDSP will adopt an integrated approach to literacy training taught in situations that relate to everyday needs. Functional literacy is not new to PNG. NGO projects in-country demonstrate that the program can bring significant change, particularly in health and education outcomes for women.

Modeled on the UNESCO program, the CDSP program will use local adult education/literacy trainers to teach in their own communities. In addition, the literacy classes will provide information on social issues such as domestic violence, HIV and AIDS (primarily addressed in the Community Health Plan) and reproductive health. Similarly, numeracy training is planned. Support for trainers will be provided through mentors and partnerships with local NGOs.

The program also plans to undertake life skills training within the PIA, which can assist in developing skills to manage the influx of royalties and equities.

#### Culture

The social fabric of the people of PNG is woven into the stories and legends passed down by the elders to the younger generation. These stories take the form of verbal parables, which tell of the morals and principles that hold a community together. They also provide the basis for grounding the younger generation. With the advent of development and technology, the tradition of storytelling is slowly being lost, and with it the teaching of morals and principles.

This program would look to encourage the young and older members of communities to engage in dialogue on the fundamental values of their community.

Activities include:

- A competition run through The Project Area schools where students from Grades Six to Ten write custom stories from their home village. The winning stories could be used to develop a book that can be used in school and community libraries as a source of information, entertainment and material for encouraging the telling of these stories for years to come; and
- A program to encourage social activities such as sport and drama. This program not only looks at the skills to organize such events but would also use these social activities to address other socially relevant topics as the need arises.

#### Community Learning Centers and Libraries

Following the PNG Government's Integrated Community Development Policy, the CDSP intends to promote community education through Community Learning and Development Centers (CLDC) and networks. CLDCs can be powerful tools to assist local people in managing the transition to a cash-based economy, with community ownership and participation. The CDSP will support community establishment of CLDCs using the processes of the Community Capacity Building and Partnership component (see section 4.3).

An important function of CLDCs is to establish links with other organizations in the community, as well as agencies outside of the community. Possible partners could include local and international NGOs, faith-based organizations, national agricultural research institutes, government departments or private sector organizations. Partner support could include:

- Information and support to women and children;
- Information and support to people living with HIV and AIDS;
- Skill-based and life-skills training; and
- Agriculture extension and innovation information.

Long-term resourcing of the CLDC and capacity building of personnel are important. Where appropriate, CLDC personnel would be linked with the functional literacy trainers.

Once established, The Project plans to also provide books for libraries and support local librarians (for a specified period) to improve access to reading materials, literacy training and school readiness. A mobile library is being considered as part of this initiative.

#### Partnership Support to Education

The Project expects many communities to prioritize education as part of their capacity building process. The Project will play a role as a partner to provide support in improving schools, with possible areas including:

- Students/teachers: Improved education on nutrition, health and sanitation; and facilitating community support for teachers.
- The physical environment: Clean water and sanitation, including appropriate toilet facilities; school food gardens; secure buildings; adequate furniture and instructional materials.
- Teacher assistance: Professional development and skills training for teachers including streamlining and teaching the National Curriculum; innovative instructional approaches; lesson preparation; textbooks and stationery.

The Project recognizes the role NGOs play in supporting schools in The Project Area. Therefore, support to schools will usually be in partnership with other organizations. To be eligible for support, schools and communities would need to prioritize and incorporate education into their community development plans. They would also need to demonstrate the contribution of the community, government and other relevant stakeholders in education through subsequent Project proposals.

#### Distance Education

Under the existing Community Development Initiatives' Flexible Distance Education, and the University of PNG Open Learning College programs, adults in The Project Area are able to complete secondary and tertiary studies via distance education. Recognized NGOs provide support by administering the studies, providing tutorials for students, arranging for testing and ensuring records are sent to Community Development Initiatives' Flexible Distance Education and the Opening Learning College Headquarters in Port Moresby. Students are also counseled regarding further educational and employment opportunities. For existing schools in the targeted communities, recognized NGOs will work with Department of Education officials, teachers and parents to improve the administrative and managerial capacity of the schools. In-service training for local teachers will be facilitated, along with increased school assessments. The Project will fund students from The Project Area to participate in the existing distance education program.

#### Community Health

The Project has a comprehensive Community Health Plan focused on avoiding or reducing the risk of potential adverse impacts on community health. The Health Plan is outlined in Appendix 2.

### 3.1.2 Implementation Outcomes

It is envisioned that through implementation of Component One: Strengthened Social Resilience, the CDSP will contribute to:

- The increased ability of communities to positively benefit from The Project and from other opportunities to improve their quality of life, including:
  - Strengthened village courts and reduced community social problems,
  - Increased access to formal and informal education,
  - Improved literacy and numeracy,
  - Reduced vulnerability of women and children,
  - Improved income management;
- Increased awareness of culture within and between indigenous groups; and
- Improved resilience of communities, particularly vulnerable communities.

3.1.3 Implementation Plan: Strengthened Social Resilience

Activities	Start Date	End Date	Timeframe																Deliverable/Outcomes	KPI	Target	Source of data
			'10				2011				2012				2013							
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3				
<b>Strengthened Social and Cultural Systems</b>		6,000,000																				
<i>Development of ToR's, appointment of service providers and/or partnership agreements</i>	Sep-10	Mar-11																	Service Providers contracts and partnership agreements in place with clear roles and responsibilities and Terms	Contracts and partnership agreements	100%	Procurement Unit
<i>Strengthening of the Village Court System</i>																			Improved law and order systems in PIA villages			
<i>Personal Viability Training</i>																			Household capacity to manage income in a sustainable manner and use it to leverage additional income earning opportunities			
<i>Protection, promotion and maintenance of culture</i>																			Collection of traditional stories published and disseminated to libraries in the PIA			
<b>Improved Access to Learning and Education</b>		6,000,000																				
<i>Development of ToR's, appointment of service providers and/or partnership agreements</i>	Sep-10	Mar-11																	Service Providers contracts and partnership agreements in place with clear roles and responsibilities and Terms	Contracts and partnership agreements	100%	Procurement Unit
<i>Functional literacy training</i>	Jan-11	Dec-13																	Literacy training course for women in PIA villages	Number of women trained	800	Training Reports with attendance registers
<i>Community learning centres, libraries, and book series</i>	Oct-10	Dec-13																	Community Learning and Development Centres established in the PIA, series of books for published and distributed	Number of community members using the CLDC and library, number of books printed and distributed	30% and 12 books	Registers kept at Libraries, Book layouts submitted and signed off by the project
<i>Distance Education Opportunities</i>	Jan-11	Dec-13																	Support to Distance Education Initiative	Number of community members supported	200	Enrolment register and report on results
<i>Partnership contribution to improving the school environment in the PIA including skills training for teachers</i>	Oct-10	Dec-13																	Deliverable will be as per those identified by the DC's, training course for teachers	Number of activities undertaken, number of teachers trained	100	Report on activities

### 3.2 Component Two: Local Economic Development

Component Two aims to increase sustainable income-earning opportunities and self-reliant livelihoods in The Project Area.

The rural informal economy is based on a mixture of subsistence and small semi-commercial activities. Additional income is earned from post-harvest processing and other activities including 'artisanal' forestry and handcrafts. Some households are involved in service industries such as food preparation, transport, vehicle repairs and fuel supply, construction and road maintenance and distributive services (buying and reselling produce, restocking trade stores). Improved value-chain, infrastructure, agricultural extension, business development services and access to financial services, can support these local economic activities making them more sustainable.

#### 3.2.1 Activities

To help support communities in income generation, Component Two will focus on:

- 1) Improving subsistence livelihood systems and enhancing post-harvest processing and marketing:
  - Sweet potato crop expansion program;
  - Sago processing improvement;
  - Rice milling;
  - Alternative vanilla process and niche marketing;
  - Fresh produce supply to markets;
  - Marine and inland fisheries;
  - Spice production technology;
  - Fruit and nut production; and
  - Production of poultry and swine livestock.
- 2) Enhancing local economic development:
  - Support to micro-to-small community businesses;
  - Support to women's groups seeking to earn income through manufacture of school uniforms and other garments as well as linens for Project housing; and
  - Other opportunities identified.

Other strategies and activities will be identified through:

- Key partnerships within the private sector to identify marketing and processing opportunities;
- Dialogue with national agricultural research institutions and local and international universities to identify and implement appropriate technology solutions and to disseminate relevant information; and
- The process undertaken in Component Three to build community capacity building.

#### 3.2.2 Implementation Outcomes

It is envisioned that through implementation of Component Two: Local Economic Development the CDSP will contribute to:

- Improved income generation within communities;
- Increase in micro-to-small businesses;
- Improved marketing systems;
- Improved value-adding activities; and
- Improved access to micro-finance.



3.2.3 Implementation Plan: Local Economic Development

Activities	Start Date	End Date	Timeframe																Deliverable/Outcomes	KPI	Target	Source of data	
			'10				2011				2012				2013								
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4								
<b>Enhance value chain activities including post-harvest processing and marketing</b>		2,000,000																					
<i>Development of ToR's, appointment of service providers and/or partnership agreements</i>																			Service Providers contracts and partnership agreements in place with	Contracts and partnership agreements	100%	Procurement Unit	
<i>Appropriate technology for sago production</i>																							
<i>Alternative vanilla processing and marketing (niche markets)</i>																							
<i>Rice milling</i>																							
<i>Fresh Produce production and supply to markets</i>																							
<i>Marine and Inland fisheries</i>																							
<i>Local fruit and nut production</i>																							
<i>Sweet Potatoes multiplication program</i>																							
<i>Other selected industries</i>																							
<b>Improved Subsistence Livelihood Systems</b>		2,000,000																					
<i>Development of ToR's, appointment of service providers and/or partnership agreements</i>																			Service Providers contracts and partnership agreements in place with	Contracts and partnership agreements	100%	Procurement Unit	
<i>Dissemination of information on improved cropping and livestock practices through improved home-based processing and value-adding</i>																							
<b>Local Economic Development Opportunities</b>		4,000,000																					
<i>Development of ToR's, appointment of service providers and/or partnership agreements</i>																			Service Providers contracts and partnership agreements in place with	Contracts and partnership agreements	100%	Procurement Unit	
<i>Linen sets for labour camps</i>																							
<i>Other selected opportunities identified</i>																							

### 3.3 Component Three: Community Capacity Building and Partnerships

The Community Capacity Building and Partnerships Component focuses on providing communities with tools to manage changes caused by The Project during construction and operations, such as monetization of land and increased income.

In Component Three, The Project will work with Government agencies, development NGO's and directly with communities to tailor solutions to communities' varying development opportunities and needs.

#### 3.3.1 Activities

Proposed Component activities include:

- Helping communities, through facilitated dialogue, produce development plans that identify and prioritize common goals and sustainable development activities.
- Helping communities to identify and access local Government support during the development planning process.
- Helping communities to identify and access other stakeholders with whom to develop multi-partner projects.
- Assisting communities to implement and monitor activities funded by The Project.

This Component will engage relevant Government planning and support agencies to:

#### **Strengthen Community Groups:**

- Provide information on the CDSP, its principles and approach in Project Area villages;
- Inform district administrations and local Government about the CDSP, its activities, and the underpinning principles. Invite Government representatives to community planning sessions; and
- Undertake community surveys to understand social dynamics, existing structures and networks, and leadership.

#### **Build Capacity of Community Groups:**

- Provide training on leadership, roles and responsibilities; and
- Create awareness of the wider communities' role in ensuring individual community groups function successfully.

**Facilitating Community Groups** to develop plans will include activities such as:

- Establishing Local Area Community Development Forums, where appropriate, to allow coordinated planning among villages with common development challenges; and
- Providing links with local level Government and district administrations in the development of the community development plans and subsequent annual plans.

**Facilitating implementation of Locally Owned Plans** which would include:

- Helping communities to develop project plans;
- Advising communities in the implementation and monitoring of community programs funded by The Project; and
- Identifying national and international advisers to assist CDSP field officers with addressing challenges associated with community mobilization and

ownership. Advisers could be professionals or retirees who have relevant experience.

### 3.3.2 Implementation Outcomes

It is envisioned that through implementation of Component Three: Community Capacity Building and Partnerships the CDSP would contribute to:

- Growth, experience and skills that communities can apply to other projects in their area;
- Implementation of community projects;
- Improved community organization and development processes; and
- Improved links among community, Government and broader stakeholders, including NGOs and development partners.

3.3.3 Implementation Plan: Community Capacity Building and Partnerships

Activities	Start Date	End Date	Timeframe																Deliverable/Outcomes	KPI	Target	Source of data
			'10				2011				2012				2013							
			Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3				
<b>Strengthen Community Groups</b>																						
<i>Community Entry and Awareness</i>	Sep-10	Dec-10	●	→															Weekly reports and community engagement excel sheets	Number of sessions with communities on CDS	117	Weekly reports
<i>Facilitate dialogue with, District and LLG</i>	Sep-10	Dec-10	●	→															Weekly reports	Weekly reports	11 LLGs	Weekly reports
<i>Community Mapping</i>	Sep-10	Mar-11	●	→															Community Mapping Report	Community Mapping Report	117	Reports signed off
<i>Workshop on roles and responsibilities</i>	Sep-10	Mar-11	●	→															Agreed Terms of Reference	Agreed Terms of Reference	±70	Agreed Terms of Reference
<b>Build Capacity of Community Groups</b>																						
500,000																						
<i>Development of ToR's &amp; appointment of service providers</i>	Jan-11	Mar-11	●	→															Service Providers contracts and partnership agreements in place	Contracts and partnership agreements	100%	Procurement Unit
<i>Develop and implement training program</i>	Jan-11	Jun-11	●	→															Training program undertaken	Number of trainees	±70	Training Reports with attendance registers
<b>Facilitate Locally Owned Plans</b>																						
1,800,000																						
<i>Development of ToR's &amp; appointment of service providers</i>	Jan-11	Jun-11	●	→															Service Providers contracts and partnership agreements in place	Contracts and partnership agreements	100%	Procurement Unit
<i>Local Area Community Development Forums</i>	Mar-11	Jun-11	●	→															Established LCDF	Signed Terms of Reference	30	Signed terms of Reference
<i>Facilitated dialogue with LLG</i>	Sep-10	Dec-13	●	→															Consultation with LLGs	LLG's aware of DC's	±70	Minutes of meetings with LLG
<i>Community visioning</i>	Mar-11	Jun-11	●	→															Community Owned Plans and subsequent annual plans	Community Owned Plans and subsequent annual plans	±70	Owned Plan and subsequent annual plans signed off
<i>Community Profiles</i>	Mar-11	Dec-11	●	→															Community Owned Plans and subsequent annual plans	Community Owned Plans and subsequent annual plans	±70	Owned Plan and subsequent annual plans signed off
<i>Facilitated participatory planning</i>	Jan-11	Dec-13	●	→															Community Owned Plans and subsequent annual plans	Community Owned Plans and subsequent annual plans	±70	Owned Plan and subsequent annual plans signed off
<b>Prioritise and facilitate implementation of Locally Owned Plans</b>																						
<i>Facilitate project plans/proposals</i>	Jan-11	Dec-13	●	→															Number of Proposals submitted to partners	Number of Proposals submitted to partners	140	Proposals signed for by partner
<i>Mentor communities in implementation and monitoring</i>	Sep-10	Dec-13	●	→															Communities mentored during implementation of projects	Number of sessions with communities	117	Weekly Reports
<b>Mentorship Program</b>																						
700,000																						
<i>Identify mentors &amp; develop ToR's and contracts</i>	Jan-11	Jun-11	●	→															Service Providers contracts and partnership agreements in place	Contracts and partnership agreements	100%	Procurement Unit
<i>Mentorship and support of Community Groups</i>	Jun-11	Dec-13	●	→															Mentorship program	Mentorship program undertaken	1	Quarterly report on mentorship activities
<b>On-Going Training/Capacity Building as Required</b>																						
1,000,000																						
<i>Identify training gaps or strategic needs</i>	Jun-11	Dec-13	●	→															Strategic plan/report on strategic activities	Strategic plan/report on strategic activities	Various	Reports submitted
<i>Development of ToR's &amp; appointment of service providers</i>	Jun-11	Dec-13	●	→															Service Providers contracts and partnership agreements in place	Contracts and partnership agreements	100%	Procurement Unit
<i>Undertake training/capacity building</i>	Jun-11	Dec-13	●	→															Training programs undertaken to build capacity	Number of trainees	Various	Training reports with attendance registers

#### 4.0 MONITORING AND EVALUATION

During implementation, CDSP activities will be monitored and evaluated for effectiveness and adapted as appropriate during the construction phase of The Project. This will be achieved through:

1. Logical framework analyses in support of individual community projects under the CDSP programs, which clearly sets out targeted outcomes and indicators and are monitored internally by The Project.
2. A mid-term review by a third party. The review will assess effectiveness and possible amendments of the CDSP programs to aid alignment with the stated CDSP objectives.
3. A final completion (end of construction period) review by a third party. The review will assess the overall effectiveness of the programs during the construction phase and make recommendations on which elements could be taken forward into the operations phase.

Table 4-1 below summarizes the internal monitoring process, which will afford the base data for the external mid-term and final completion reviews.

**Table 4-1: Monitoring and Evaluation Plan**

Element	Parameter /Criteria	Frequency	Method	Monitoring Responsibility
Community Development Support	<b>Component One: Strengthened Social Resilience</b>			
	<b>Strengthened social and cultural systems</b> Life skills training Increased capacity to manage income	Quarterly from Q1 2011	CDSP field work Service Provider reports, questionnaires, and follow-up surveys	CDS Support Team
	<b>Improved access to education</b> Education centers engaged across the CDS project area, functional literacy courses across the CDS project area Distance education across the CDS project area Teacher training	Quarterly from Q1 2011	CDSP field work Service Provider reports (if applicable) Community Committee reporting	CDS Support Team
	<b>Component Two: Local Economic Development</b>			
	<b>Enhance post-harvest processing and marketing</b> Improved marketing Projects partnering with established private sector	Quarterly from Q1 2011	CDSP field work Service Provider reports (where applicable) Community Committee reporting	CDS Support Team
	<b>Improved subsistence livelihood systems</b> Village information sessions on existing technologies to improve agricultural practices Projects aimed at home-based	Quarterly from Q1 2011	CDSP field work Service Provider reports (where applicable) Community Committee reporting	CDS Support Team

Element	Parameter /Criteria	Frequency	Method	Monitoring Responsibility
	processing Farmer education on improved crop and livestock practices			
	<b>Local economic development opportunities</b> Other selected opportunities such as garment and linen manufacturer	Quarterly from Q1 2011	CDSP field work Service Provider reports (where applicable) Community Committee reporting	CDS Support Team
<b>Component Three: Community Capacity Building and Partnerships</b>				
	<b>Strengthen community groups</b> CDS officer visits to communities, Number of community groups engaged in: Fair representation from community – women, youth, elders, etc. facilitated planning Project plans Number of projects implemented	Quarterly from Q3 2010	CDSP field work Service Provider reports (where applicable) Community Committee reporting	CDS Support Team
	<b>Build capacity of community groups</b> Develop and implement training programs Quarterly Community Development Forum Meetings	Quarterly from Q3 2010	CDSP field work Service Provider reports (where applicable) Community Committee reporting	CDS Support Team
	<b>Facilitate locally owned plans</b> Local area community development forums Facilitated participatory planning	Quarterly from Q2 2011	CDSP field work Service Provider reports (where applicable) Community Committee reporting	CDS Support Team
	<b>Prioritize and facilitate implementation of locally owned plans</b> Facilitate project plans/proposals Advise communities in implementation and monitoring	Quarterly from Q2 2011	CDSP field work Service Provider reports (where applicable) Community Committee reporting	CDS Support Team
	<b>Adviser program</b> Advice and support to community groups	Quarterly from Q3 2011	CDSP field work Service Provider reports (where applicable) advisor reports	CDS Support Team
	<b>On-going training/capacity building as required</b> Undertake training/capacity building	Quarterly from Q3 2011	CDSP field work Service Provider reports (where applicable) training reports	CDS Support Team

## 5.0 EXIT STRATEGY

Support under the CDSP during the construction phase, will be steadily reduced in a transparent and sustainable manner, through local level partnerships and capacity building activities such as those contained in Component 3. Where appropriate and feasible<sup>1</sup> partnerships with PNG-based 3<sup>rd</sup> party organization (local communities, civil society and government) will be established to implement projects, encouraging the transfer of ownership of these activities to the locally based organizations.

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<sup>1</sup> Third-party organizations (local communities, civil society and government) must be able to demonstrate the ability to both implement and sustain elements of the projects beyond the timeframe of the investment by the Project

## **APPENDIX 1: BACKGROUND TO THE COMMUNITY DEVELOPMENT SUPPORT PLAN**

### **IMPACT AREA PROJECT**

The *Oil and Gas Act 1998* defines The Project Area as including landowners within a Petroleum Development License area and/or within up to a five kilometer buffer zone around dedicated project facilities such as pipelines, plant sites and support facilities. This definitive description of The Project Area is required for the purposes of identifying project beneficiaries.

When identifying communities that would be potentially affected by The Project, the PNG LNG Social Impact Assessment included some communities and areas outside The Project Area to account for people and places likely to be directly or indirectly effected by The Project and its associated benefit streams. This larger area includes 117 communities where the majority of activities are likely to be felt in the short-to-medium timeframe, and where the majority of the affected population presently resides.

The CDSP considers all of the area covered by The Project Social Impact but emphasis is placed on a much smaller area where impacts and potential opportunities associated with The Project are significant.

### **PAPUA NEW GUINEA CONTEXT**

The CDSP has been developed within the context of PNG, taking into account current governmental structures and processes, and acknowledging the socio-economic status of the different impacted areas.

#### **The Government Of Papua New Guinea: Legislative And Policy Context**

The government of PNG has a number of plans, strategies, policies and programs to guide its pursuit of sustainable socio-economic development. Alignment with Government priorities and policies is important to ensure Project activities maximise opportunities for positive and sustainable impacts, and build on existing structures and processes. The CDSP aims to be consistent with relevant plans and policies that have been developed by the Government of PNG to avoid duplication and to enable effective coordination and implementation of activities. These include:

- National/Provincial education policies and plans.
- National/Provincial health policies and plans.
- National/Provincial transport policies and plans.
- National/Provincial forestry policies and plans.
- National/Provincial fisheries policies and plans.
- National/Provincial environment and conservation policies and plans.
- National/Provincial law enforcement and judicial policies and plans.
- National Land Development Policy.
- National/Provincial culture and tourism policies and plans.
- National/Provincial business development policies and plans, including in the informal sector.
- National Urbanisation Policy.
- National and Provincial Highway Rehabilitation Policy.



**Table A1: Overview of Government of PNG Programs and Policies**

Policy/Program	Overview	Key Focus Areas	Objectives
<b>The PNG Vision 2050</b>	A framework for a long-term strategy that maps out the future direction of the country, reflecting the aspirations of the people of PNG.	The vision is underpinned by seven Strategic Focus Areas: <ul style="list-style-type: none"> <li>Human Capital Development, Gender, Youth and People Empowerment.</li> <li>Wealth Creation.</li> <li>Institutional Development and Service Delivery.</li> <li>Security and International Relations.</li> <li>Environmental Sustainability and Climate Change.</li> <li>Spiritual, Cultural and Community Development.</li> <li>Strategic Planning, Integration and Control.</li> </ul>	<ul style="list-style-type: none"> <li>Improving governance.</li> <li>Improving service delivery.</li> <li>Improving law enforcement.</li> <li>Creating rapid growth potential which can be realized in a reasonable time.</li> </ul>
<b>PNG Development Strategic Plan</b>	A framework for improving quality of life that seeks to exploit available opportunities and enable Papua New Guineans to become key players in the overall socio-economic development of their country.	Alignment of different sectors, including: <ul style="list-style-type: none"> <li>Economic policies.</li> <li>Public policies.</li> <li>Sector policies and micro-interventions.</li> </ul>	<ul style="list-style-type: none"> <li>Achieving economic improvement.</li> <li>Improving quality of life.</li> </ul>
<b>Medium Term Development Strategy</b>	Demonstrates the government's strategic direction for economic and social development prioritizes the government's expenditure program. It identifies the wider policy framework and makes provision for recovery and development, improvement of fiscal responsibility and support for rural development, poverty reduction and human resource development.	<ul style="list-style-type: none"> <li>Rehabilitation and maintenance of transport infrastructure.</li> <li>Promotion of income earning opportunities.</li> <li>Education (formal and informal).</li> <li>Primary health care, including widespread prevention of HIV/AIDS.</li> <li>Law and justice.</li> </ul>	<ul style="list-style-type: none"> <li>Articulating a development strategy that provides a framework for prioritizing government expenditure.</li> <li>Identifying the wider policy framework needed to support and strengthen the Program for Recovery and Development.</li> <li>Improving fiscal governance by strengthening PNG's Public Expenditure Management through fiscal sustainability, strategic prioritization of financial resources, and cost-effective program implementation.</li> </ul>
<b>Integrated Community Development Policy</b>	Aimed at strengthening communities and enhancing community access to education and development opportunities, with a vision of "building a sustainable future". It strives to improve community livelihoods and empower Papua New Guineans to benefit from the development process.	<ul style="list-style-type: none"> <li>Community education</li> <li>Community governance.</li> <li>Community economics.</li> <li>Community environment.</li> </ul>	<ul style="list-style-type: none"> <li>Promoting order and resilience.</li> <li>Reducing poverty.</li> <li>Building capacity.</li> <li>Combating HIV/AIDS.</li> <li>Maintaining fundamental community values.</li> <li>Focusing particularly on vulnerable groups</li> </ul>

## Overview of Livelihoods in The Project Area

The sustainable livelihoods approach was used to determine the current status of the 117 potentially impacted communities targeted by the CDSP. The approach attempts to gain an understanding of strengths on which to capitalize to create successful livelihood strategies (Castro, 2002). Particular attention was given to the sustainability of the natural resource base, considering the significant role that this plays in livelihood sustainability within PNG.

Livelihoods assessments were conducted for different areas to acquire socio-economic information for better community understanding and development decisions. The assessments took place over an eight-month period in partnership with Land and Community Affairs personnel. The assessments were conducted across 20 villages, representing a cross-section of villages in Project Area, and including consultation with more than 600 people.

Consultations included focus meetings with Village Liaison Officers, general community meetings, and semi-structured and one-on-one interviews.

Specifically the following areas were assessed:

- The Upstream area focused on:
  - Hides, Komo, Juha and Angore.
  - Moran and Kutubu, including Kantobo.
  - Gobe.
  - Kikori.
- The Downstream area focused on the four LNG plant site villages.

Assessments focused on the five livelihoods assets: natural, physical, human, financial and social.

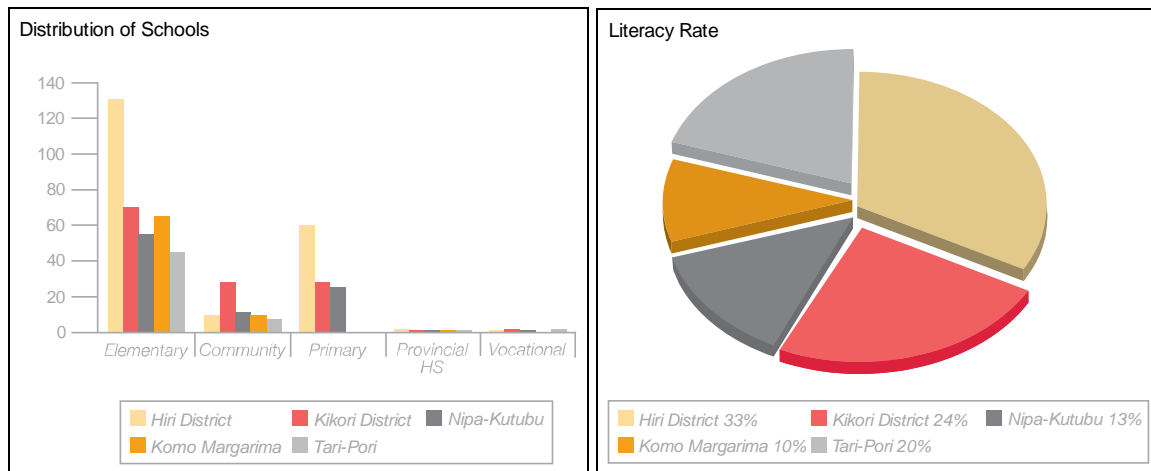
### Upstream Assessment

The upstream Project Area is rich in natural resources with abundant forests, waterways and fertile soils, with high levels of biodiversity, and rich plant and animal life that contribute significantly to the livelihoods and sustenance of households. The terrain ranges from expansive rainforest-covered mountains in Hides and Juha and the northern parts of Moran, Kutubu and Gobe, to the limestone and swampy grasslands of Kikori and the Omati Delta.

A survey undertaken by Oil Search (2007) describes the upstream area as follows:

- The majority of households (>80%) live in traditional houses without power or sanitation and are remote with limited access to infrastructure and communications to the outside world. On average villagers walk two to three hours to the nearest road. Less than 10% own a motor vehicle or motorized boat or canoe. This area has exhibited high levels of migration with 25% of the household's survey by Oil Search in 2007 having moved from another location. Migration is driven by access to income-generating opportunities as well as by leaving conflict zones resulting from inter-tribal disputes.
- Households are large, with extended families numbering up to 15 or more. The households are predominantly made up of youth, with more than 40% younger than 15 years and fewer than 4% over the age of 55. While there is a wealth of indigenous knowledge through the different areas, formal education levels remain low, with few groups achieving education higher than Grade Eight. This is due to a variety of reasons, including a lack of teachers, the high cost of attending school and the long distances traveled to reach school due to the remoteness of many villages. School attendance is poor

with 57% of children over six years never having attended school. Women and girls have particularly low levels of education. An estimated 36% of the population is literate, the majority of the illiterate being women. Some 18% of females and 29% of males over the age of 16 have completed Grade 6.



**Figure A5: Distribution of Schools and Literacy Rate: Distribution of Schools and Literacy Rate**

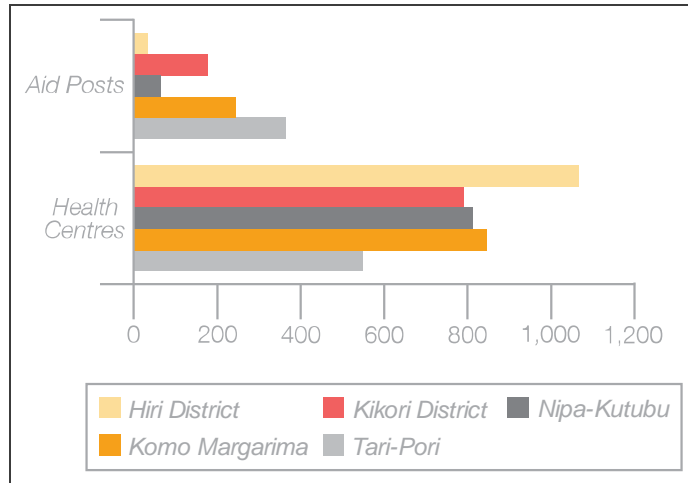
Upstream communities have identified their greatest need as the provision of basic services, improved water supply and access to education and health facilities.

The main source of drinking water for 80% of the villages is rivers and streams, with many sources of water within a half hour walk from the homestead.

The majority of homesteads have pit latrines. However, 25% of Moran households and 19% of Gobi households are still without pit latrines.

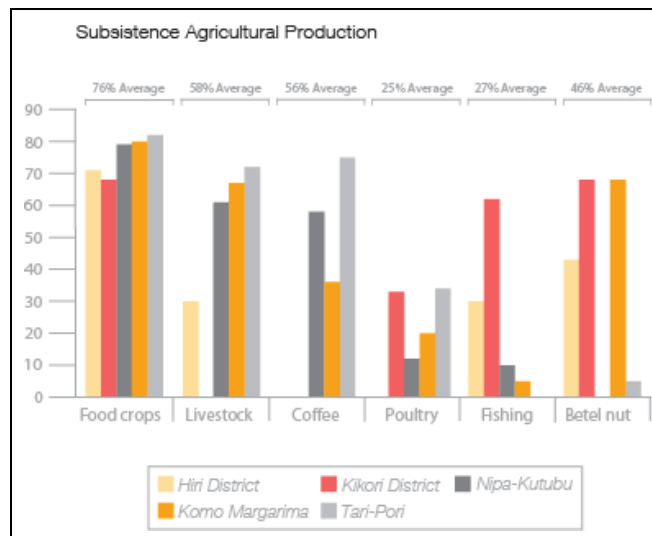
Only 11% of households have access to electricity through household generators.

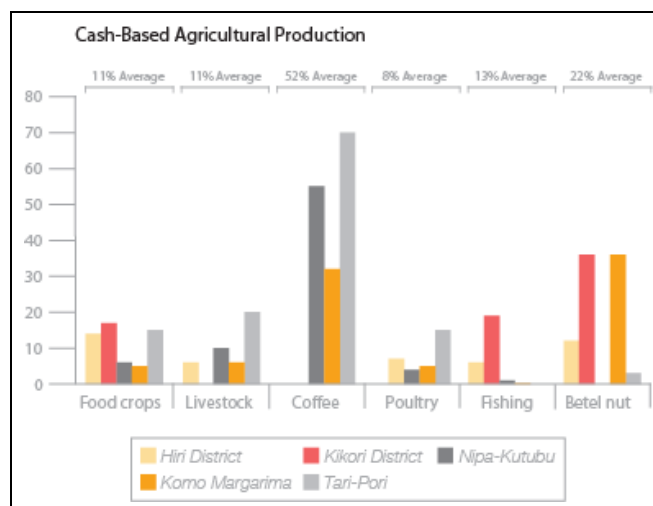
Health levels are low in most areas, largely due to the inaccessibility of health services and facilities. In particular, there is a prevalence of tuberculosis, HIV/AIDS and malaria. Poor post-natal care contributes to infant mortality. The number of women who die in childbirth is high, with at least half of all births take place without medical care. Mortality for children under five years is estimated at 176 per 1000 live births compared to 74 per 1000 for PNG as a whole. The contributing factors are poor nutrition and no vaccinations against preventable diseases, including respiratory diseases.



**Figure A1: Number of People per Health Unit**

Consumption of purchased goods is relatively high, with rice, tinned fish or meat and juice the main purchases. A majority (85%) report income during the year, mainly from cash crops and the sale of surplus subsistence production (Figure A3). Less than 7% of households operate their own businesses. These are mostly agricultural activities such as harvesting livestock and food crops. The current employment rates of males and females over the age of 15 are 12% and 2% respectively, and only 31% of households having a member with bank account.





**Figure A2 (a-b): Subsistence (a) and Cash-based (b) Agricultural Production**

While local level Government structures exist throughout all the areas, most lack funds and capacity to support diverse initiatives. A third of the villages in the upstream Project Area have functional Ward Development Committees, while functional village courts can be found in 66% of the villages.

NGOs have contributed to social development but have a limited presence in some areas. Church groups are active throughout the entire Project Area, contributing substantially to community development, social justice and communication, and human capacity building.

While health and education levels remain low throughout The Project Area, there is a strong sense of community in each of the villages largely due to the *wantok* system. This unwritten social contract enables villages to work together, creating social stability in times of need. While this strong sense of community exists within tribal groups and clans, there is some conflict among social groups, often with physical retribution accepted as a social norm, as particularly evident in the Hides area. Village courts and tribal leadership still have strong decision-making powers within villages, representing traditional practice. The participation of women in public decision-making is generally low.

### Downstream Assessment

The LNG plant site area consists of grasslands and supports about 261 hectares of mangroves and 12 hectares of mudflats. The soils are sandy with little nutrition. The Great Barrier Reef runs parallel with the coastline, and provides an important habitat for fish and marine invertebrates. Shellfish, prawns, fish and turtles are abundant and are important to the diet of villagers. Table A2 indicates the type of fisheries in the Hiri District.

**Table A2: Type of Fisheries Activities in the Hiri District**

Type of Activity	Total/Status	Type of Resources
Subsistence	Open	Shellfish, mud crabs, prawns, reef fish.
Small scale	Open	Prawns, mud crabs, reef fish, Bech-de-mer, Shark Fin.
Commercial	9 active dry products	Shark fin, beche-de-mer, trochus shell, fish maw.
	3 active wet products	Reef fish, live mud crab, prawns.
	4 certified aquarium fisher groups	Marine aquarium reef fish.

Overall, cassava is the most important locally grown food. Food studies indicate that significant quantities of rice and flour-based foods (such as bread and biscuits) are consumed in this area. Significant quantities of fish and other marine life are eaten. Some hogs were noted in villages, but they are of minor nutritional significance.

Villagers regularly travel to the inland areas, particularly the Lakes Bunu, Gorimana and Laraguma to garden, hunt deer and wallaby, fish in both the lakes and the inland mangroves, and collect sandalwood. Many of these people camp in these hunting areas for up to several days at a time. These activities are primarily to gather foodstuffs for sale in the markets of Port Moresby, although a proportion is kept for subsistence.

Women dig for mud-crabs in the mangroves while men fish. An estimated 60% of the fishing is in the swamps for tilapia. Fisherman at Lea Lea noted that about 70% of fishing is done at night.

There is little variation in mean monthly temperatures, with an annual rainfall of between 1000 and 1500 millimeters, and agricultural potential is low.

Although residents obtain some of their water from shallow wells, water is a major concern to villagers, with all four villages facing problems in securing regular supplies of safe, potable water. Bulk electricity is present, but not all households are connected to a reliable and uninterrupted power supply. The communication network relies heavily on cellular telephones. Roads and schools are in reasonable condition.

School enrolment is good but attendance decreases towards the end of each academic year. The Hiri District has an overall literacy rate of 81% (84% among men and 81% among women). Health Posts are present, with a health aid worker (trained in midwifery) in Boera. Women from Papa travel to Boera to give birth as Papa's clinic does not have a birthing room. The Papa Aid Post is open five days a week and staffed by a nurse.

In general, Papua New Guineans have a low savings rate. Earned cash is applied to immediate needs. Women earn money through subsistence activities such as sewing, gardening, informal trade stores and gathering mud crabs. These earnings buy food, clothes and pay for school fees. Any savings are hidden at home or given to a trusted party, usually associated with the church, in the village.

### Vulnerability Assessment

Two key areas of vulnerability exist in The Project Area, namely geographic isolation and marginalization of women and girls within the traditional culture of ethnic groups.

The Project Area includes a number of geographically isolated communities, such as Pupa and Yalupa in Hides, Goare in Kikori, and a number of other villages.. Visits to these two communities highlight that these isolated villages have benefited little from historical royalties and equity dividends. Landowners say they travel long distances to collect payments and spend the majority of the income on accommodation and other needs in urban areas. As logistics and access are major challenges, little is transported back to the village. This is exemplified in outlying villages.

Geographic isolation results in a loss of culture as people migrate to take advantage of health and education services located elsewhere. This is illustrated by the Febi clan (as referred to by section 4.3 of the CSS). Much of the Juha Febi population has dispersed south to Suabi or north to Koroba, and will continue to move to surrounding areas as development brings better services. The opening of isolated areas through the construction of roads exposes communities to dominant cultures such as the Huli, often diluting traditions and increasing competition for their resources. The Febi may experience this when the Juha fields are developed in 10 years.

The status of women has been a recurring issue across all ethnic groups. The Project will support programs designed to empower women and girls.

### Key Findings

The livelihood analyses undertaken in The Project Impact Area guided the CDSP on key focus areas for implementation of community development programs. The following four focus areas consistently presented themselves as a need in the communities visited:

- Support and capacity building of community-based structures to effectively plan and implement development strategies.
- Increased access to opportunities and financial education. For example:
- Increased opportunity to generate income through improved literacy, especially among women and girls.
- Capacity building to effectively manage income and development funds; to improve education, health, water and sanitation systems.
- Training to manage social issues.
- Increased opportunity to generate income to sustain economic growth after the construction period. This will require:
- Access to funding to develop local businesses.
- Improved crop production practices and alternative agricultural production to diversify and increase yields.
- Improved agricultural production and marketing practices.

## INDUSTRY ASSESSMENT

An review was conducted to better understand the status of current industries and their sub-sectors within PNG and to identify initiatives that could contribute to sustainable economic development. PNGs economic profile was examined. Key public and private organizations, including NGOs and government institutions and departments representing more than 15 industry sub-sectors were interviewed.

Several important factors emerged from this research.

- PNG is a subsistence-based rural economy whereby approximately 75% of the population relies on subsistence agriculture for livelihood, supplemented by hunting and gathering indigenous fruits and nuts.
- The Project crosses four bioclimatic zones, each with a different environment in which industrial activities are generated.

As such, particular attention has been paid to the different climatic zones and the livelihoods that they support. This has been summarized in Table A-3, indicating the variety of agricultural products that are currently available within The Project areas.

**Table A3: Bioclimatic Regions and Agricultural Potential**

	Highlands ( <i>Hides – Moran</i> )	Midlands ( <i>Kutubu – Gobe</i> )	Delta and Coastal ( <i>Kopi-Kikori</i> )	Coastal ( <i>LNG plant site</i> )
<b>Bioclimatic description</b>	<ul style="list-style-type: none"> <li>Mountainous areas.</li> <li>Tall woody regrowth.</li> </ul>	<ul style="list-style-type: none"> <li>Primary forest.</li> <li>Tall woody regrowth.</li> <li>Numerous rivers and waterways.</li> </ul>	<ul style="list-style-type: none"> <li>River delta.</li> <li>Swamps and hardwood forests.</li> </ul>	<ul style="list-style-type: none"> <li>Beach ridges.</li> <li>Low hills and foot slopes.</li> <li>Grasslands.</li> <li>Mangroves.</li> <li>Mudflats.</li> </ul>
<b>Significant enterprises (agricultural predominance)</b>	<b>Vegetables (predominant):</b>			
	<ul style="list-style-type: none"> <li>Sweet potato.</li> <li>Banana.</li> <li>Taro.</li> <li>Cassava.</li> <li>Sago.</li> </ul>	<ul style="list-style-type: none"> <li>Sago.</li> <li>Sweet potato.</li> </ul>	<ul style="list-style-type: none"> <li>Sago.</li> <li>Banana.</li> <li>Sweet potato.</li> <li>Taro.</li> </ul>	<ul style="list-style-type: none"> <li>Banana.</li> <li>Cassava.</li> <li>Yams.</li> <li>Sweet potato.</li> <li>Taro.</li> </ul>
	<b>Vegetables (other):</b>			
	<ul style="list-style-type: none"> <li>Aibika.</li> <li>Corn.</li> <li>Cucumber.</li> <li>Highland pitpit.</li> <li>Lowland pitpit.</li> <li>Peanuts.</li> </ul>	<ul style="list-style-type: none"> <li>Taro.</li> <li>Highland pitpit.</li> <li>Lowland pitpit.</li> <li>Rungia.</li> <li>Aibika.</li> <li>Tulip.</li> <li>Corn.</li> <li>Bean.</li> <li>Cucumber.</li> <li>Pumpkin tips.</li> <li>Choko tips.</li> </ul>	<ul style="list-style-type: none"> <li>Aibika.</li> <li>Highland pitpit.</li> <li>Lowland pitpit.</li> <li>Pumpkin.</li> <li>Chili.</li> <li>Rice.</li> </ul>	<ul style="list-style-type: none"> <li>Aibika.</li> <li>Corn.</li> <li>Cucumber.</li> <li>Lowland pitpit.</li> <li>Peanuts.</li> <li>Pumpkin.</li> <li>Beans.</li> <li>Tomato.</li> </ul>
<b>Fruits:</b>				
<ul style="list-style-type: none"> <li>Marita pandanus.</li> <li>Pawpaw.</li> <li>Pineapple.</li> <li>Sugarcane.</li> </ul>	<ul style="list-style-type: none"> <li>Marita pandanus.</li> <li>Pawpaw.</li> <li>Pineapple.</li> <li>Sugarcane.</li> </ul>	<ul style="list-style-type: none"> <li>Malay apple.</li> <li>Mango.</li> <li>Pineapple.</li> <li>Sugarcane.</li> <li>Guava.</li> </ul>	<ul style="list-style-type: none"> <li>Coastal pandanus.</li> <li>Malay apple.</li> <li>Mango.</li> <li>Orange.</li> <li>Pawpaw.</li> <li>Pineapple.</li> <li>Sugarcane.</li> <li>Watermelon.</li> </ul>	
<b>Nuts:</b>				
<ul style="list-style-type: none"> <li>Breadfruit.</li> <li>Pangium edule.</li> </ul>	<ul style="list-style-type: none"> <li>Breadfruit.</li> <li>Okari.</li> <li>Pangium edule.</li> </ul>	<ul style="list-style-type: none"> <li>Breadfruit.</li> <li>Coconut.</li> </ul>		



Highlands ( <i>Hides – Moran</i> )	Midlands ( <i>Kutubu – Gobe</i> )	Delta and Coastal ( <i>Kopi-Kikori</i> )	Coastal ( <i>LNG plant site</i> )
<b>Enterprises:</b>			
Significant enterprises: <ul style="list-style-type: none"> <li>• Coffee.</li> <li>• Pigs.</li> <li>• Tigaso oil.</li> </ul>	Significant enterprises: <ul style="list-style-type: none"> <li>• Fishing.</li> <li>• Animal skins.</li> </ul>	Main enterprises: <ul style="list-style-type: none"> <li>• Fishing.</li> <li>• Betel nut.</li> <li>• Tobacco.</li> <li>• Animal skins.</li> </ul>	Main enterprise: <ul style="list-style-type: none"> <li>• Fishing.</li> </ul>

## Potential Industries in PNG

While Table A-3 provided an overview of livelihoods within the bioclimatic zones, further investigations were made into other market opportunities throughout The Project Area. These are highlighted below:

**Table A4: Industrial Opportunities within The Project Impact Area**

Industry	Description
<b>Fisheries</b>	<ul style="list-style-type: none"> <li>Fisheries have played a significant role in household livelihoods and economic activity, particularly in Kikori and the LNG plant site villages.</li> <li>Subsistence fishery production has been valued at US\$20 million.</li> <li>A large resource of prime estuarine fish exists in the extensive delta system entering the Gulf of Papua. This resource is currently very lightly harvested and could become a source of significant income for local villagers.</li> </ul>
<b>Forestry</b>	<ul style="list-style-type: none"> <li>Production of high-quality timber and other forest products from planted trees represents an important community development opportunity.</li> <li>Plantation log exports account for approximately 10% of industry production while processed exports are approximately 30%.</li> <li>The financial return for logging companies in PNG is uncertain. While current official log prices indicate that the industry has been unprofitable for a number of years (2005 losses were estimated at more than K75 million - US\$25 million), logging continues and companies still seek access to new forest areas and make significant investments in other areas of the economy.</li> </ul>
<b>Coffee</b>	<ul style="list-style-type: none"> <li>Coffee is a major export in PNG, with most grown on small farms using available labor (usually the farmer and his/her family).</li> <li>Approximately 50% of the rural population is involved in coffee production and substantial urban areas are employed.</li> <li>Greatest opportunity with the coffee industry is increasing the manufacturing scale and roasting capacity of the industry.</li> <li>The estate sector has declined due to failure in management and low international prices, which previously made PNG one of the major role players in the world trade stage as the quality producer of superior estate coffee. The industry seeks innovative business strategies that will return the estate sector to the world stage. Joint venture and partnerships are important to the rehabilitation of this sector.</li> </ul>
<b>Vanilla</b>	<ul style="list-style-type: none"> <li>PNG accounts for 10% of the world's total vanilla export, and due to Indonesia's decline in production, has the potential to become the second largest exporter.</li> <li>Need for the development of an extension institution that will help small gardens maintain good quality product; the development of policies that will govern the vanilla industry; development of a partnership with the Department of Agriculture for extension services and support; and the establishment of a marketing body that will be updated with the market demands and price movements.</li> </ul>
<b>Chickens</b>	<ul style="list-style-type: none"> <li>Demands for poultry meat and eggs is high and growing, despite the cost of feed for intensive and semi-intensive broiler and egg production.</li> <li>While large commercial operations will not be viable in The Project Area (due mainly to transport costs for feed), small growers (100-200 bird units) will be viable in the live bird market.</li> <li>Village poultry improvement programs developed in collaboration with producers and traders can improve the wellbeing of rural communities and provide good-quality poultry to urban consumers who are willing to pay a price premium for birds raised under free-range, village conditions.</li> </ul>
<b>Rabbits</b>	<ul style="list-style-type: none"> <li>The rabbit industry is currently very small and could be an emerging niche product.</li> <li>Domestic rabbits are suitable for small-scale production and backyard farming. They are easily maintained and require limited space.</li> <li>The meat is either consumed by villagers or traded for other goods. They also provide manure for farmers.</li> <li>Rabbits act as a source of affordable protein, and rural areas are encouraged to farm and consume rabbit meat especially in areas where there is a protein deficiency in diets.</li> </ul>
<b>Vegetables</b>	<ul style="list-style-type: none"> <li>Village-based agriculture supports over 70% of the population of PNG.</li> <li>Domestic trading of fresh produce is an important source of cash income.</li> <li>The potential exists to supply fresh vegetables to the work camps that will be established for the construction of The Project. However, the supply must be high-quality and regular.</li> <li>Extensive support is required for small growers in The Project Area, including access to funding, and technical and market support.</li> </ul>

Industry	Description
<b>Sweet Potato</b>	<ul style="list-style-type: none"> <li>• Potential to increase the sweet potato yield in small gardens by introducing new disease-free varieties.</li> <li>• Potentially could contribute to establishing small nurseries in The Project Area that could supply small gardens with planting material.</li> <li>• Nurseries could develop into small business opportunities.</li> <li>• Main limiting factor is the poorly developed road system linking production zones with rural areas.</li> </ul>
<b>Sago</b>	<ul style="list-style-type: none"> <li>• Major staple food for the lowland area traditionally cooked and eaten in various forms.</li> <li>• Sago palm has potential for development as a commercial crop, chiefly for high quality starch for use as an industrial feedstock.</li> <li>• Potential yield from sago plantations is estimated at 25 tons of dry starch/ha/year (based on a harvest of 138 logs/ha/year and 185 kilograms starch/palm).</li> <li>• Can also be used as a key material in various industries such as paper, plywood, and textile industry. Sago starch is used to make adhesives, paper, ethanol, high fructose glucose syrup, maltodextrin, cyclodextrin and monosodium glutamate.</li> </ul>
<b>Orchids and Floriculture</b>	<ul style="list-style-type: none"> <li>• Topography of PNG is highly favorable for floriculture production, particularly in the Highlands;</li> <li>• Tapping into a niche market.</li> <li>• Increasing floriculture production would rely on improving physical infrastructure and skills development.</li> </ul>

## Research Findings

Communities within The Project Area rely predominantly on subsistence agriculture, supplemented by hunting and gathering indigenous fruits and nuts. Wild pigs have declined in the Hides area due to extensive hunting. In Kopi and Kikori their population has remained stable due to the region's reliance on fish and religious and cultural dietary practices. While poultry is viable throughout The Project Impact Area, it will be limited by lack of infrastructure and logistical networks.

Key research findings which are relevant to the development of the CDSP include:

- Agricultural market development has not been a priority.
- No single crop covers the entire Project Area and crops vary according to terrain. As such, key crops for the different areas need to be identified.
- Communities lack the technical capacity to produce crops of consistent quality and quantity. There are challenges with regard to institutional arrangements, which allow communities to access markets and supply contracts.
- Informal local markets exist within and among communities. There is a lack of infrastructure and poor logistical capacity which affects the quality and quantity of produce and constrains market growth. Roads, communication networks and access to information remain largely inaccessible due to the remoteness of most villages. The lack of key value-chain infrastructure, such as refrigerated storage or processing facilities, prevents current production from entering into different markets. There are examples such as palm oil where collective grower projects have successful Lessons learned from these models can be useful in overcoming institutional, socio-cultural, and logistical challenges.
- To unlock access to markets within The Project Area, further investigation is needed into establishing private sector partnerships.
- Initiatives should focus on exploring niche markets and finding alternative technologies that can support these, such as the drying of vanilla.

Based on these findings, it is recommended that focus be placed on the following activities within each area:

**Table A5: Focus Areas by Region**

<b>Highlands Hides – Moran</b>	<b>Midlands Kutubu - Gobe</b>	<b>Delta and Coastal Kopi - Kikori</b>	<b>Coastal LNG plant site</b>
<ul style="list-style-type: none"> <li>• Vegetables.</li> <li>• Indigenous fruits and nuts.</li> <li>• Fresh local greens.</li> <li>• Aquaculture.</li> <li>• Fresh water fishing.</li> <li>• Pigs.</li> <li>• Poultry.</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh water fishing.</li> <li>• Vanilla.</li> <li>• Sago.</li> <li>• Rice.</li> </ul>	<ul style="list-style-type: none"> <li>• Vegetables.</li> <li>• Fishing.</li> <li>• Sago.</li> <li>• Forestry.</li> <li>• Nipa palm.</li> <li>• Orchids.</li> </ul>	<ul style="list-style-type: none"> <li>• Marine fishing.</li> <li>• Cassava.</li> <li>• Fishing.</li> <li>• Fruit.</li> <li>• Poultry.</li> <li>• Pigs.</li> </ul>

## INSTITUTIONAL CONTEXT

An institutional review was undertaken to understand existing structures, programs, activities and capacity in The Project Area, and to identify lessons learned from industry and development activities as well as potential implementation partners<sup>2</sup>.

### Non-governmental Institutions

The interviews revealed that all institutional groups were involved in similar social development activities. Variation among them was largely based on the scale of operations. Activities fell into five main categories:

- Health;
- Education/ training/ skills development;
- Democratic governance and culture;
- Livelihoods and industry; and
- Infrastructure development.

A detailed list of the activities under each of these categories is in Table A6.

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<sup>2</sup> This was not intended as an institutional mapping exercise but rather to identify lessons learned.

**Table A6: Activities of Non-Government Organization**

Health	Education, Training and Skills Development	Democratic Governance and Culture	Livelihoods and Industry	Infrastructural Development
<ul style="list-style-type: none"> <li>• HIV/AIDS awareness and prevention.</li> <li>• Health training.</li> <li>• Drug and alcohol rehabilitation.</li> <li>• Family planning and childcare.</li> <li>• Malaria.</li> <li>• Preventative diseases.</li> <li>• Immunization.</li> <li>• Mobile clinics.</li> <li>• Counseling.</li> <li>• Personal hygiene.</li> <li>• Smoking and chewing of betel nut.</li> </ul>	<ul style="list-style-type: none"> <li>• Staff training for all levels of government and implementation partners.</li> <li>• Vocational training, skills development and capacity building of individuals and organizations.</li> <li>• Adult literacy (predominantly for women, but not exclusively).</li> <li>• Educating youth.</li> <li>• Schools, including pre-schools, primary schools and high schools.</li> </ul>	<ul style="list-style-type: none"> <li>• Conflict resolution and mediation.</li> <li>• Law enforcement.</li> <li>• Community empowerment and ownership.</li> <li>• Leadership training (predominantly for youth).</li> <li>• Prevention of domestic violence.</li> <li>• Gender equality</li> </ul>	<ul style="list-style-type: none"> <li>• Agriculture and cash crops.</li> <li>• Improved production: projects had a main focus on increasing livelihood production through training and skills development, particularly with regards to:               <ul style="list-style-type: none"> <li>○ Agriculture (mainly vegetable production).</li> <li>○ Piggeries.</li> <li>○ Poultry.</li> <li>○ Fisheries.</li> <li>○ Goats.</li> </ul> </li> <li>• Baking and Sewing.</li> <li>• Industry support: projects provided support for different industries in the following ways:               <ul style="list-style-type: none"> <li>○ Poverty reduction.</li> <li>○ Increased income generations through micro-financing and financial training.</li> </ul> </li> <li>• Technology transfer.</li> </ul>	<ul style="list-style-type: none"> <li>• Provision of water services:               <ul style="list-style-type: none"> <li>○ Water tanks.</li> <li>○ Water wells.</li> <li>○ Gravity springs.</li> </ul> </li> <li>• Sanitation:               <ul style="list-style-type: none"> <li>○ Awareness for the importance of proper sanitation.</li> <li>○ Ventilated Improved Pit latrines.</li> </ul> </li> <li>• Road construction: develop roads and bridges.</li> <li>• Telecommunication links and radio stations.</li> </ul>

A specific indication of activities is seen in Table A-7:

Table A7: Overview of Activities Identified during Interviews

Groups	Development Areas														Area of Operation				
	Social Improvement				Livelihoods and Home Industry Development				Strengthening Institutional Structures			Infrastructure Development							
	Health	Edu	Sport	Culture	Improved Production	Industry Support	Sust Resource Dev	Skills Dev.	Comm. Forums	LLG	Law & Order	Water	Sanitation	Educa-tion	Hides/Juha/Komo	Kutubu/Moran	Kikori	POM	High-lands Highway
<b>Development Partners</b>																			
AusAID	X	X	X		X	X			X	X	X				?	?	?	X	?
UN	X	X			X	X	X			X	X			X				X	
NZ AID	X	X			X	X			X	X				X				X	
World Bank					X	X	X			X	X			X	X			X	
ADB	X					X	X		X	X	X				X	X		X	
EU	X	X				X	X		X	X		X	X	X	X			X	
World Vision	X	X			X				X	X		X	X		?			X	
CARE	X	X			X		X		X			X	X	X				X	
Burnett Institute	X								X	X								X	
OXFAM	X						X		X	X				X					
<b>NGOS</b>																			
FPCD	X	X		X				X	X			X	X					X	
CDI	X	X	X	X				X	X	X		X	X		X	X	X	X	
MNCL		X						X			X				X	X	X	X	
CELCOR		X							X		X				X	X	X	X	
PNG SDP	X	X						X	X			X	X						
OSL	X	X	X	X				X	X	X		X	X	X	X	X	X	X	
OTML	X	X		X				X	X	X		X	X	X					
VSO	X	X		X	X			X	X	X									X
PNGWiADF	X	X			X	X	X	X	X	X					X	X	X	X	X
<b>FBOS</b>																			
ADRA					X	X	X					X	X						
Four Square	X	X			X	X									X	X		X	
YWCA	X	X																X	X
Caritas - Catholic Church	X	X		X	X	X					X							X	X
SDA	X	X			X							X			X		X		
Salvation Army	X	X			X		X					X						X	
United Church	X	X		X	X	X	X		X		X	X	X		X	X	X	X	X
Bahai Faith		X		X							X							X	

Much of the donor assistance is focused on building the capacity of national government institutions to provide services. However, a recent trend is also evident whereby donors are looking to improve livelihoods at the local and district level. The following donors' programs are particularly relevant to the Community Development Support community-driven approach:

- AusAID's Sub-national Strategy supports the government of PNG Performance Improvement Initiative through location of staff and advisers in Provincial Administrations, including Southern Highlands. AusAID's Strongim Pipol Strongim Nesen program is focused on rural based community development, empowering communities to identify needs and implement responses. This program is a partnership between AusAID and the Department of National Planning to ensure funding for development at provincial and local level government level, as well as assisting NGOs and Community Based Organizations in rural areas.
- The European Union has a Rural Water Supply and Sanitation Program. It is also currently developing a competitive grants program aimed at building capacity within district and local level government administrations.
- The World Bank has also initiated a project aimed at improving local level government throughout the country, largely through the provision of funds and capacity building opportunities.

## Government System

In PNG, primary services such as health, education, and infrastructure are the responsibility of the government. With the objective of trying to get services closer to the people, PNG established a form of sub-national government under the *Organic Law on Provincial and Local Level Government Act (OLPLLG) 1995*. The government's structure is as follows:

**Table A8: Government Structure**

Government Level	Sitting Government	Executive Arm of Government	OLPLLG Planning Budget Committees
<b>National</b>	National Parliament	National Executive Council	N/A
<b>Provincial</b> <i>18 Provinces plus Bougainville Autonomous Region and National Capital District</i>	Provincial Assembly	Provincial Executive Council	Joint Provincial Planning and Budget Priority Committee.
<b>District</b> <i>89 Districts</i>	N/A	N/A	Joint District Planning and Budget Priority Committee.
<b>Local</b> <i>326 Local Level Governments (2008), including urban and rural</i>	Local Level Government Assembly	Local Level Government Assembly	N/A
<b>Ward</b> <i>6228 (in 2007)</i>	N/A	N/A	Ward Development Committee.

Under the OLPLLG there is an existing system to facilitate bottom-up planning as seen in Figure A-4 below:



**Figure A3: Levels of Government**

Wards provide governance at the village level. Views should be represented at the Ward Development Committee (WDC), which is represented at the local level government level by Ward Counselors. WDCs are not formally a part of the OLPLLG but were introduced through the *Local Level Government Administration Act (1995)*, and are largely unfunded. The key political and administrative committees who are responsible for, and plan resource allocation are:

- Ward Development Committees: the principal community advisory unit to the local level government, determining needs for services, programs and infrastructure.
- The Joint Provincial Planning and Budget Priority Committee: oversees, coordinates and makes recommendations for overall provincial planning, while suggesting budget priorities to national government. The Joint Provincial Planning and Budget Priority Committee determines and controls budget allocation priorities for the provinces, as well as develops five-year rolling development plans.

#### Village Courts

Under the *OLPLLG 1995*, provincial governments oversee administration of Village Courts. The national government has ongoing responsibility for jurisdiction, appointment of Village Court Chairmen, Deputy Chairmen and Magistrates, and standards, including training and inspections, data collection and advice to the government of PNG on policy and funding levels. The Government of PNG provides some funding to provincial governments in the form of an annual Village Court Function Grant and Officials' Allowance payments.

As of 2010, the national Village Courts and Land Mediation Secretariat has prioritized support to the resource project provinces given the key role these two service systems play in dealing with local community issues and minor offences at the village level.

#### District Improvement Programs

Further to the *OLPLLG 1995*, the government of PNG introduced the District Services Improvement Program. It provides funding to Members of Parliament to use for project creation within their Districts. Projects are selected through a proposal process facilitated by the Provincial Joint District Budgetary Committee. Projects are intended to improve roads, health, water and sanitation facilities as well as provide for other infrastructural needs.

The District Road Improvement Program has a primary focus on improving transport networks throughout the country, by focusing on road maintenance.

Government structures in the provinces associated with The Project vary in their effectiveness and ability to deliver. While it is recognized that while some WDCs are functional, their appropriateness as entry points into Project communities would need to be assessed on a case-by-case basis.



## PLAN IMPLEMENTATION

The table below summarizes the use of the livelihood, local industries and local institutional assessments to develop the CDSP.

**Table A2: Assessment Findings and the CDSP**

Key Findings	CDSP Component
<p>Improved access to health, water and sanitation systems.</p> <p>Social strengthening to take advantage of opportunities, as well as manage any social problems.</p> <p>Increased access to education to improve livelihoods and income generating opportunities, especially for women and girls.</p> <p>Initiatives to reduce social problems</p> <p>Improved income-generating activities to sustain economic growth after the construction period.</p>	<p>Strengthened social resilience.</p>
<p>Capacity building to effectively manage income and development funds.</p>	<p>Local economic development.</p>
<p>Support and capacity building of community-based structures to effectively plan and implement development strategies.</p> <p>Communicate information about potential initiatives.</p> <p>Community involvement is essential to analyze needs to develop projects.</p> <p>Alignment with community needs and government priorities is essential.</p> <p>Programs should have a holistic approach.</p> <p>Adequate time and resources are needed for community transformation.</p> <p>Communities must be integrally involved in and implement processes.</p> <p>Networks must be established and community structures and leadership recognized.</p> <p>Communication must be consistent during and after project implementation to maintain relationships.</p>	<p>Community capacity building and partnerships.</p>
<p>During implementation, CDSP activities will be monitored and evaluated for effectiveness and adapted during the life of The Project as appropriate.</p>	

**APPENDIX 2:  
COMMUNITY HEALTH MANAGEMENT PLAN - SUMMARY**

<p><b>Principles</b></p> <ul style="list-style-type: none"> <li>▪ <b>Mitigate</b> potential impacts; create a stable platform for extended benefits;</li> <li>▪ <b>Sustain</b> by working through established local partners;</li> <li>▪ <b>Create</b> an objective and defensible database; this will be a critical tool in refuting claims of harm caused by The Project and it will provide a basis for an objective assessment of the mid and long term effects of The Project on Community Health and other aspects of social determinants of health</li> <li>▪ <b>Avoid</b> replacing the role of government;</li> <li>▪ <b>Front-end load</b> during construction with a much smaller and focused operations phase profile</li> </ul>
<p><b>Programs</b></p> <ul style="list-style-type: none"> <li>▪ <b>Develop programs</b> based on objective burden of disease (deal with highest burden of disease) emphasis on respiratory diseases (pneumonia and TB), vector-borne diseases (dengue and malaria), sexually transmitted infections (HIV/AIDS, curable STIs);</li> <li>▪ <b>Support selective</b> health infrastructure upgrades in areas of major long-term project activity- (a) HGCP, (b) LNG villages;</li> <li>▪ <b>Build</b> a sustainable demographic surveillance platform so project has long-term objective defensible data to demonstrate satisfactory mitigation and/or extended benefit. (Note: the demographic surveillance platform selected and developed by PNG LNG has been characterized (correctly) by the Lender's representatives, D'Appalonia, as a "best practice".</li> </ul>
<p><b>Partners</b></p> <ul style="list-style-type: none"> <li>▪ <b>PNG Institute of Medical Research (PNGIMR) and their key sub-contractor PNG School of Health Sciences;</b></li> <li>▪ <b>PSI</b> overall NGO platform manager and their key sub-contractors (Divine Word University, Church Medical Services members – ECPNG, Salvation Army, Diocese of Mendi)</li> </ul>
<p><b>Progress</b></p> <ul style="list-style-type: none"> <li>▪ <b>Signed</b> - partner agreements signed and executed;</li> <li>▪ <b>Initiated</b> - demographic surveillance initiated in LNG villages;</li> <li>▪ <b>Initiated</b> - laboratory support initiative with PNGIMR begun; diagnostic equipment and training support to LNG and Hides area Health Posts underway</li> <li>▪ <b>Begun</b> - major burden of disease programs begun;</li> <li>▪ <b>Structure</b> - NGO outreach activities - feasibility studies underway; community health education programs underway, coordinated G&amp;PA health programs underway</li> </ul>
<p><b>Risks associated with an incomplete or ineffective Community Health Management Plan</b></p> <p>Potential that Project could exacerbate already difficult community health situation by introducing disease vectors</p> <p>Opportunity missed to provide significant health benefits to communities and forge strong partnerships with government and non-government stakeholders that will carry over to Production Operations</p>
<p><b>Responsible Organization(s) and Managers</b></p> <p>MOH: Joe Burton and Marci Balge</p>

The objectives of the Community Health Management Plan are:

- To avoid or reduce risks to and impacts on community health during The Project life cycle from both routine and non-routine circumstances; and.
- Establish monitoring and evaluation (M&E) program that is community based, participatory, transparent and covers all phases of construction, operations and decommissioning.

Components and Partners:

- PNG Institute of Medical Research (PNGIMR) areas including demographic surveillance, respiratory diseases, laboratory efforts, vector-borne diseases, STIs;
- Population Services International (PSI) activities which take the "soft sciences to bridge the hard biological work into the communities; and
- Selective infrastructure and training pieces

## Background

A community Health Impact Assessment (HIA) was performed in 2008. The overall purpose of the HIA is to predict health impacts prior to the implementation of The Project in order to determine measures to reduce negative health consequences and enhance beneficial ones.

The key objectives of the PNG LNG HIA were to:

- analyse the sufficiency of baseline health data in The Project area of influence and highlight any critical data gaps
- evaluate the potential health impacts on individuals, populations and communities within the proposed Project area of influence
- employ qualitative, semi-quantitative or fully quantitative data for assessment of health impacts, where impacts can be neutral, positive or negative
- provide a formal mechanism that involves and engages the relevant stakeholders to ensure appropriate discussions directed towards the prevention and mitigation of negative effects on health
- provide a basis or framework, for developing a formal mitigation strategy:

Overall, the intent of the HIA was to specifically look at impacts, direct, indirect and cumulative that could be logically and causally tied to The Project.

Community Health Management focuses on "environmental health". Environmental health encompasses the human living environment and emphasizes primary prevention through interventions in housing, sanitation, solid waste control, water, food, transportation and communication and differentiates from "public health" with its disease specific focus. Approximately 25 to 33 percent of the global burden of disease can be attributed to environmental risk factors.

Issues surrounding the role of PNG health infrastructure and capacity have also been considered because it is estimated that deficiencies in a developing country's health care system could account for approximately 18 per cent of the overall burden of disease.

In addition human resource staffing and skill levels correlate significantly with health outcomes and health systems performance and are a major social determinant of the overall burden of disease. The combination of both the environmental burden of disease and health systems deficiencies could account for approximately 50 per cent of the overall burden of disease.

The PIAs were systematically analyzed using an environmental health area (EHA) framework that categorizes the variety of bio-medical and key social determinants of health into twelve environmental health areas.

Environmental Health Areas (EHAs)	
1	Health services infrastructure and capacity and Program management delivery systems: physical infrastructure, staffing levels and competencies, technical capabilities of health care facilities; coordination and alignment of The Project to existing national and provincial level health programmes, (e.g., TB, HIV/AIDS, malaria), and future development plans
2.	Sexually transmitted infections: HIV/AIDS, syphilis, gonorrhoea, Chlamydia, genital ulcer disease, trichomonas and hepatitis B
3.	Vector-related disease: malaria, dengue, Japanese Encephalitis (JE) and other arboviral diseases, Lymphatic Filariasis, and ectoparasites, etc.
4.	Vaccine Preventable Diseases – pneumococcus, measles, mumps, rubella, tetanus, typhoid, etc.
5.	Soil, Water, Waste and Sanitation related diseases – geohelminths, e.g., giardia, hook and pin worms, etc.
6.	Food and nutrition related issues: changes in subsistence practices; stunting, wasting, anaemia, micro-nutrient diseases (including folate, Vitamin A, iron, iodine), gastroenteritis (bacterial and viral); food inflation
7.	Accidents/injuries and Community Safety– road traffic related spills and releases, construction and drowning.
8.	Social Determinants of Health (SDH): psychosocial, resettlement/relocation, violence, security concerns, substance misuse (drug (including betel nut), alcohol, smoking), depression and changes to social cohesion
9.	Exposure to potentially hazardous materials: road dusts, air pollution (indoor and outdoor related to industrial activity, vehicles, cooking, heating or other forms of combustion/incineration), landfill refuse or incineration ash, any other project related solvents, paints, oils or cleaning agents, by-products, noise and illumination
10.	Housing and Respiratory issues: acute respiratory infections (bacterial and viral), pneumonias, tuberculosis; respiratory effects from housing, overcrowding, housing inflation
11	Non-Communicable Diseases - hypertension, diabetes, stroke, and cardiovascular disorders.
12.	Veterinary Medicine/Zoonotic Issues: potential disease distributions secondary to changes in animal migration/market selling patterns due to project-related activities or infrastructure.

### Mitigation and Management Measures

The overall mitigation strategies are organized around two fundamental public health concepts,

- Health promotion / education defined as:
  - Any intervention that seeks to eliminate or reduce exposure to harmful factors by modifying human behaviors; and
  - Any combination of health education and related organizational, political and economic interventions designed to facilitate behavioral and environmental adaptations that will improve or protect health, and
- Disease prevention defined as:
  - Any intervention that seeks to reduce or eliminate diagnosable conditions; and
  - May be applied at the individual level, as in immunization, or the community level, as in the chlorination of the water supply.

Disease prevention is often illustrated by the prevention pyramid which is composed of:

- Primary – the base of the pyramid which covers population-oriented actions designed to be implemented before health problems develop;

- Secondary – the second level covering actual clinical preventive services for populations at high risk, where interventions are designed to prevent a condition;
- Tertiary – top of the pyramid covering treatment intervention or rehabilitation with existing, serious problems.

The placement of population-oriented prevention at the base is significant due to its:

- Focus on all of the people as recipients;
- Broad, long-lasting impact on health; and
- Role in defining and facilitating the whole system to work.

Because of the geographical size of the PNG LNG Project, a combination of health promotion/education and primary disease prevention is the most efficient and cost-effective method of managing potential impacts. Therefore, a workforce health promotion/education effort spearheaded by The Project can significantly impact or influence behaviors and practices in local communities by using The Project-workforce as “peer educators and ambassadors” in their home villages. The overwhelming evidence in the prevention literature is that peer-educators are the most successful “change agents” at a household level. Therefore, the mitigation strategies provide a series of practical biological/medical approaches that are scientifically defensible and compatible with existing administrative and “political reality.”

Mitigation strategies do not neatly fall into “internal project” and “external community” categories. For some potential impacts, there is a continuum from The Project to the community and vice versa. The Project workforce is both a separate inside the fence line community but also simultaneously part of the wider external rural/urban environment surrounding The Project. Therefore, many of the proposed strategies originate inside the fence line and extend into specific Project Impacted Areas (PIAs). Mitigation activities, whether directed towards workers, family members or the general community, are carefully assessed and tied to appropriate outcome indicators.

The Project will have a large national workforce which comes from geographic areas where The Project is active

Project workers have the potential to mitigate potential negative health impacts and effect positive change at both a household and community level because they live in the potentially affected communities

A series of mitigation strategies are developed into detailed implementation plans describing timeframes, responsibilities, collaborating agencies/organizations and performance indicators. The overall mitigation approach is tied to the demographic surveillance system (DSS) platform. The DSS is an internationally recognized system that is community based, participatory and scientifically rigorous. Appropriate control communities are also monitored and used for comparison. The DSS provides real time, objective information that is used to develop any needed specific intervention measures.

The DSS is designed to capture as wide a range of information as possible since all impacts, positive or negative, can not be fully anticipated in advance. Nevertheless, there is extensive experience with both large industrial projects and issues surrounding project triggered influx. Therefore, the community health management plan reflects those impacts that are considered to be most likely, during all phases of The Project. These reasonably anticipated potential impacts are organised around the environmental health framework. Whenever possible, mitigation strategies were developed based on existing in-house programs and resources, focusing on alignment and cross utilization of in-house resources.

**SUMMARY:**

- Detailed execution plans are underway;
- Community Health Programs have been launched; and
- Rapid ramp-up in 4Q10 and 1Q11