

**Master's Thesis**

**A STUDY OF SOCIAL ENTREPRENEURSHIP  
IN  
PAPUA NEW GUINEA**

**Stakeholder Relationship Along Liquefied Natural Gas Pipeline**

by

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## **Certification Page**

I, NAMBRI Desmond (Student ID 52117617) hereby declare that the contents of this Master's Thesis are original and true, and have not been submitted at any other university or educational institution for the award of degree or diploma. All the information derived from other published or unpublished sources has been cited and acknowledged appropriately.

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NAMBRI Desmond

2019 May 30<sup>th</sup>

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## **List of Abbreviations**

<b>BP:</b>	British Petroleum
<b>CBD:</b>	Capacity Building and Development
<b>CDSMPP:</b>	Community Development Support Management Plan-Production
<b>EHL:</b>	Esso Highlands Limited
<b>EMPNG:</b>	ExxonMobil (PNG) Limited
<b>ESCAP:</b>	Economic and Social Commission for Asia and the Pacific
<b>GDC:</b>	Gigira Development Corporation Limited
<b>Lancos:</b>	Landowning Company
<b>LBD:</b>	Landowner Business Development
<b>LNG:</b>	Liquified Natural Gas
<b>MoA:</b>	Memorandum of Agreement
<b>NCP:</b>	National Content Plan
<b>OSL:</b>	Oil Search Limited
<b>PDL:</b>	Petroleum Development License
<b>PNG:</b>	Papua New Guinea
<b>PPP:</b>	Public-Private Partnership



## **Abstract**

Papua New Guinea (PNG) Liquefied Natural Gas (LNG) gas project has the potential of raising living standards in PNG. How the rest of the country, including agriculture, forestry, fisheries where the majority of the country's population depend on for their daily living benefits: firstly, depends on the macroeconomic management of the government, mainly the windfall revenue from the project during the production stage; secondly the monetary policy stance in reaction to movements in liquidity, inflation, exchange rates, and interest rates; and thirdly how the government and the investors/developers engage the communities to participate effectively to improve their socio-economic status in the country.

There are ten landowner companies (Lancos) engaged by the investors/developers in production related activities. Lancos provide services such as labor hire, maintenance, transportation, fuel distribution, freighting, and vegetable supplies. However, the vast majority of Lancos tend to pursue individual objective then community objective, contributing to no improvement in the socio-economic outcome of their communities and no improvement to livelihoods in communities impacted project.

The purpose of this study is to investigate the correlation between the public-private partnership (PPP) programs, capacity building and development (CBD) amongst communities and Lancos; and how it is contributing towards the application of social entrepreneurship in improving Lancos performance thus creating social value in respective communities along the PNG LNG pipeline.

Using Kendall's tau (non-parametric) and Mann-Whitney U statistical analysis, this research analyzed the investors/developers and beneficiaries of the project; their

observations on the PPP programs and CBD and their effect of social entrepreneurship as a business concept and its contribution toward creating social value in communities.

The EMPNG and OSL as investors/developers of the project, through their PPP programs, are building and developing capacities amongst the communities along the PNG LNG pipeline. The application of social entrepreneurship has a business concept minimal but is eagerly pursued by EMPNG and OSL for Lancos to adopt the concept to create social value in communities to improve socio-economic outcome and livelihoods.

The study answers the questions regarding the correlation on PPP influences on CBD and social entrepreneurship and CBD influence on social entrepreneurship. Further studies are needed to establish causal relationships and to develop a framework to upscale the social entrepreneurship concept among Lancos of the PNG LNG project.

*Keywords: Capacity Building and Development, Public-Private Partnership, Social Entrepreneurship, Social Value Creation.*

## **CHAPTER 1: INTRODUCTION**

### **1.1 Objective of the study**

Social entrepreneurship is a new phenomenon that adopts a commercial entrepreneurship skill to address societal problems. According to Johanna Mair, Jeffrey Robinson, and Kai Hockerts (2006), they defined social entrepreneurship as a business with a range of broad activities. These are social entrepreneurs who strive to make a difference; through business ventures that is social and is committed to adding for-profit motivations to the nonprofit sector. The application of social entrepreneurship concept by Lancos among their respective communities along the PNG LNG pipeline to create social value is far from satisfactory. It is still to be ascertained to some degree if the PPP programs and CBD initiatives are promoting and creating awareness on social entrepreneurship among the Lancos and their communities.

The term PPP refers to a long-term contract between a private party and a government entity for the provision of public services and development of public infrastructures in which responsibilities and rewards are shared. The term CBD in the context of this research is more focused on community capacity building and development. The purpose of CBD is to identify current assets in the community and build on it and also create new skills to create social values in communities. Derick Brinkerhoff and Jennifer Brinkerhoff (2011), elaborated that some of the PPP programs are designed for effective delivery of goods and services and further stressed that the focus is on aiding to initiate and advance systems, capabilities, and skills to assist communities and organization to help themselves. The creation of the community capacities building programs is done through the CBD initiatives. In terms of the PNG LNG programs, the PPP programs are responsible for the creation of the CBD

initiatives which is rolled out into the communities through the OSL social responsibility policy and EMPNG community development support management plan-production Plan (CDSMPP).

## **1.2 Significance of the study**

The objective of this research is to analyze data collected from the survey conducted between the investors/developers, and beneficiaries of the PNG LNG project, and to determine PPP's influence on CBD and social entrepreneurship and CBD's influence on social entrepreneurship.

Since the role of social entrepreneurship in PNG is limited in terms of literature publication, we investigated whether PPP and CBD can play a significant role in promoting and harnessing the values of social entrepreneurship has a business concept among Lancos and communities, which would present a new mode of doing business for the Lancos and their communities, whose focus will be more on social value creation than profit-seeking.

## **1.3 Research plan**

Chapter 1: Introduction

Chapter 2: Literature Review

Chapter 3: Theoretical Framework and Hypotheses

Chapter 4: Research Methodology

Chapter 5: Analysis and Results

Chapter 6: Discussions and Findings

Chapter 7: Conclusion

## **CHAPTER 2: BACKGROUND**

Papua New Guinea is situated in the South Pacific Ocean and is bordered by Australia to the south and Indonesia to the east. PNG gained its independence from Australia in 1975. According to the national population and housing census conducted in 2011 by the PNG National Statistics office; PNG population in 2011 was approximately 7,275,324. PNG comprises of four regions; the Highlands region constitute thirty nine percent of the population, Northern constitute twenty six percent, Southern region twenty percent and Islands region fifteen percent. The PNG LNG project is situated along the Highlands and Southern region. The PNG LNG gas project will directly impact approximately thirty percent of the total population of the Highlands and Southern region.

The Asia Pacific Forestry Sector Outlook Study/Country Report-PNG pointed out that the Lancos concept was instigated as a measure of the 1979 National Forest policy to maximize the national participation in the forestry sector. Ever since then, the number of Lancos has considerably increased over the years, a lot of them issued with timber permits, with the primary objective that their resources would be developed and managed by themselves.

In theory, the concept has good intentions and is good, but it is hard to implement due to several reasons. The reasons are that the concept had been manipulated and abused for personal gains, which significantly contributed to the concept of not achieving its objectives. Over the years, most of the Lancos management labelled as corrupt because they are not corporate compliant and have since gone out of business. The other contributing factor is that there was much in-fighting among the clan members who also contributed significantly to the concept objective not realized. The result is that the

Lancos tend to move away from its primary objective of creating social values within its communities and improving the livelihood of the people it represents.

There are differing opinions concerning the above problem, but one of the contributing factors is the lack of business skills and financial literacy in running a small-medium enterprise. The Lancos structure needs to incorporate social entrepreneurship so it can address social problems through invention and innovation. The incorporation of social entrepreneurship into Lancos objective and mission will create social value among communities impacted by the PNG LNG gas project. The land tenure system itself is complex and adds to the difficulty faced by the Lancos, and the continuous increase in the number of Lancos in the country does not help. There is a need for the Government of PNG to regulate the Land Group Incorporation Act (1974) to ensure improvements in how the Lancos manage their operations.

The reason why mining and petroleum companies, including the national government, have adopted the same approach is that the concept itself is good. As stressed below, the oil and gas companies have put in place a framework to ensure the Lancos operate within those frameworks to be successful. From lessons learned from the OSL operation, a lot has been done to improve the participation of the Lancos in the PNG LNG project.

## **2.1 PNG LNG and Oil Search (PNG) Limited**

The nature of the oil and gas extraction which includes metalliferous mining industries has a subtle difference, and it varies as it has a profound impact concerning how it influences the type of local business development that emerges as a result of its consortium with them. In terms of the oil and gas sector, the volume contract

disbursement is very high during the construction period rather than the operation period. There is a downturn when the full operations start, but in due course, as production progresses, more opportunities for the Lancos arises again, but it does take time.

Petroleum development in PNG has transpired through different stages between 1991 up at Hides Gas field in the Hela Province in PNG and moving on to Kutubu in the Southern Highlands Province in 1992. In 1996-1997 the petroleum exploration shifted to Gobe Oil field and then on to Moran Oil field in 1998. The evolving of local business development in those areas are based on the exploration and findings of oil and gas. The PNG LNG project has brought together local and regional stakeholders and to an extent, local business interest. One of the significant setbacks is that there is no dominant umbrella company in the areas, as mentioned above. Since the initiation of the PNG LNG project, there was not any effort or level of coordination of landowner business development (LBD) to establish a significant umbrella company. The absence of a significant umbrella company in the petroleum sector can be the course of the incoherent and cumbersome project development including the conservative foundations that the earlier small Lancos prompted as will be highlighted later. The absence of the umbrella company had a significant consequence for LBD structures.

According to Richard Jackson (2015), concerning project investors/developers' commitments to support and encourage local business development, there is no explicit obligation in the Oil and Gas Act (1998). In numerous MoAs signed for each of the petroleum development license (PDL), to which the investors/developers was not a party. The identical and open clauses inserted asserts that 'the State would use all reasonable endeavor to ensure that subject to compliance with price, quality and deliverability preference is given, in the supply and procurement of materials, equipment and services

firstly to businesses owned by project area landowners, secondly to those from Southern Highlands and lastly from elsewhere in PNG'. While insipid, this is somewhat divergent to conditions pragmatic to the mining industry in which the mining Act makes no mention of local preference. Although, from the time when the arbitration of the Porgera MoAs, each project MoAs has incorporated correct provision for local preferences.

The Oil and Gas Act (1998) stipulates that investors/developers of oil and gas have no obligation to commit to support and encourage local businesses. Some different MoAs were signed for each of the PDL and of all the MoAs signed, the investors/developers was not a party to any of them. Regarding the MoAs signed, the investor/developer, EMPNG guided by its national content plan (NCP) that binds its PPP with the national government, and Lancos in capacity building, and engagement of the community in greater social and economic participation far and wide among the communities impacted by PNG LNG project.

The local enterprises in the project impacted areas where EMPNG is operating are being established and supported over the years prudently by the investors/developers. The establishment of the local enterprises has come about due to extreme pressure from their host communities, with little or no direction or support, until recently from the government of PNG.

## **2.2 Hides petroleum development license (PDL)**

In 1990, the Hides region in Hela province was discovered to hold an enormous reserve of gas. However, the investors/developers could not find a market for the gas reserves. Due to the non-availability of the market for the gas, a small project was initiated, as a gas-to-electricity project which was small in size. The British Petroleum initially



operated it (but was later taken over by OSL). A portion of the gas reserves was utilized to operate turbines to produce electricity that was reticulated about seventy-five kilometers for sale to the Pogera Gold mine.

Seven main clans lay claim to the Hides PDL region which is a single graticular block as per the social mapping. The Gigira Development Corporation Limited (GDC) was incorporated encompassing the seven clans and was issued seven share classes within their own PDL areas and for them to elect their Board of Directors. The idea of share classes is new, and it was exclusively designed and developed for the LBD. The purpose of the 7-share classes is to balance the company formation and management with pre-existing social groups.

When GDC was incorporated, the OSL awarded the company several contracts. The company went into a joint venture with other companies focusing on labor and staff hire through JDA (a human resource recruiting company) including catering and camp maintenance services with the Eurest Company. GDC since its incorporation maintains a very high standard in its corporate management, which manifested through its compliance with laws in doing business in PNG. The contracts awarded to GDS brought in revenue that was disposed of annually as dividends to the clan members, and investments made, which is evident in the acquisition of real estate in Port Moresby.

Over the years, certain landowning groups decided to create their Lancos such as the Kawapa Development Corporation and Tuguba Development Corporation, which were incorporated. Following that, another 3-way joint venture was realized and was called Petroleum Enterprise Joint Venture (PEJV). The other subsidiaries that emerged were the Mountain Oil Limited and Truck Naphtha, which is a by-product of gas extraction to markets in Western Highlands. GDC took over the management over these

companies, and they become subsidiaries of GDC.

For various reasons these later-formed Lancos did not operate and manage themselves profitably or adequately which culminated in them ceasing their operations, leaving GDC to run its contracts. Additionally, in the initial design phase of the LNG Project, EMPNG opted to inaugurate a new umbrella/representative company to shield the area over which GDC had, in earlier years, had an implicit monopoly. The action of EMPNG to create competition relegated GDC's area of operation to some extent. Despite certain management matters in recent years, GDC continues to function although its turnover is small compared to the incomes grossed by other Hides area companies during the PNG LNG construction period.

According to Richard Jackson (2015), the system's weakness to date stems from the following factors:

The Lancos was not up to date with their returns to IPA,

- The Company Act gives allowance to about eighty-one percent (81%) of Lancos to avoid having independent financial audits,
- Critical financial data are not made available to shareholders due to loopholes in the Company Act that state that non-exemption companies not to reveal directors' fees or expenses,
- The final reason given as a result of the survey conducted was that seventy-four percent (74%) of the Lancos have no company constitutions,

The survey also looked at the strength of the system to date, and the following are the findings:

- Survival rates of the Lancos are excellent,

- As stated in table 18 at the appendix, the project has created Lancos who have created 59,000 jobs both directly and indirectly,
- The total payment made to Lancos in 2014 by the PNG LNG stood at K1.6 bn (or US\$640 million), and payments to other companies were over K1.8 bn (or US\$740 million).

Lancos have accumulated assets at a very respectable rate. Investment by Mineral Resources Development Company (MRDC) seems to be good but cannot be said to be transparent; thus, corporate responsibility and accountability come into question. The transaction cost concerning investment portfolios has been inflated over the years, which contributes significantly in terms of the profit outcome. The umbrella companies created do not adequately perform their functions as expected, which poses the question of whose primary interests is pursued by the investors/developers. The resource company or an independent agency should be responsible for the functions of an umbrella company.

As this paper aims to analyze the Lancos in terms of social value creation, the focus of the Lancos is in asset accumulation and profit generation, and not in social value creation (social entrepreneurship). The PPP is also focusing on ensuring that the Lancos accumulate assets based on contracts derived from the project. The EMPNG national content plan details how the investor/developer will support the community in terms of its commitment to the communities in the impacted areas but not the Lancos responsibilities to its communities and how the Lancos can effectively engage its communities in meaningful social and economic development.

## CHAPTER 3: LITERATURE REVIEW

### 3.1 Public-Private Partnership

A PPP is an agreement between the public and private sector and involves a degree of risk sharing between both parties. Tony Bovaird (2004), defined PPP as partnerships in terms of work agreement beyond and above the contractual agreement that involves commonly two groups, the government, and the company/organization. He further argued that the trust is the common denominator in a closer relationship, equal distribution of assets, transfer of knowledge and technology, and learning opportunities based on mutual collaboration. He noted that suggestions put forward in strategic management literature stressed that partnerships would create a competitive and collaborative advantage through three different perspectives. These three different perspectives constitutes, 1) creation of economies of scale in regard to provision of service or activities, 2) it contributes towards the creation of an economy of scope in the provision of services or activities, 3) it contributes towards the creation of avenues and incubation centers for the transfer of knowledge and technology. This partnership involves the government, business, civic, and civil societies.

This is further iterated by HK Yong (2010), in terms of delivery of public services and infrastructure development, it is an arrangement between the public and private sector which is a long-term contractual agreement and obligation that both parties have agreed and entered into a partnership.

He further stressed that there are three main features of a PPP, which are:

#### *3.1.1 Transfer of risk:*

One of the vital aspects of the PPP arrangement is the transfer of risk from the public to the private sector. The notion behind the risk transfer is to allow the party with the

capacity and resources to manage the risk. The risk transfer to a party with the capacity to manage risk is because the private sector has the skills and technical know-how to mitigate any loss that may arise from the project. That is from the design phase to the completion of the project.

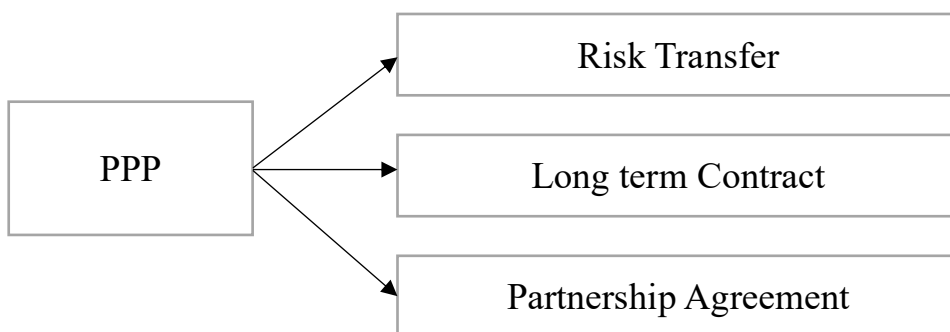
*3.1.2 Contract on a long-term basis:*

PPP projects between the private and public sector usually are on a long-term basis and are about 10-20 years. It usually goes from design, construction, and completion. There are other PPP arrangements between the public and private sector that are between 3-5 years and less than ten years.

*3.1.3 Partnership Agreement between the public and private sector:*

The most important thing is that PPP is a partnership between the public and private sector and that the interest between both parties are binding and unified by a legal agreement. It is a co-operation between the public and private sector and draws on the strength of one another that compliments their relationship.

*Diagram detailing the main features of a PPP:*



*Figure 1.*

Diagram detailing the main features of a PPP, Source: Public-Private Partnership, reference guide, pp 8

*The Framework of Public-Private Partnership:*

In terms of the PPP framework, four essential success factors are vital to the PPP framework. The four factors are policy formulation, Legal and Regulatory Framework,

Institutional Arrangements, and Financial Arrangements.

#### *3.1.4 Policy formulation:*

In any PPP arrangement, a policy framework is vital because it sets out the following:

- It sets out the main objective and the rationale for utilizing the PPP concept,
- It details how the government plans to proceed with its PPP program,
- It sets out the monitoring and evaluation guidelines on how the government wants to assess its PPP program,
- It identifies the role that will be performed by different government departments, the institutional structures, and processes that are involved, the procurement process, and approvals.

These are fundamental in establishing any PPP because the policy framework needs to be clear and transparent. A bright and concise policy framework will show the government's commitment to implementing the PPP concept in the country.

#### *3.1.5 PPP legal framework:*

The PPP legal framework usually is based on three levels: The framework of PPP in terms of its legal auspices and covers issues such as property rights and land acquisitions. The other important thing about a legal framework is the rules and regulations on the procurement process, and this is because when it comes down to significant infrastructure development, much money is expended,

Finally, the legal framework must cover the agreements in terms of the relevance of the contract, which is essential in PPP programs. A legal framework that is designed and developed appropriately is vital for any success of a PPP program. It contributes towards effective time management, effective utilization of the efforts and resources, and

flexibility towards resource issues.

### *3.1.6 Regulatory framework:*

The regulatory framework of PPP compliments the policy and legal framework. The primary function of the regulatory framework as stressed by HK Yong (2010), is to assist and aid the private sector to participate in the country's infrastructure and service delivery actively. The core purpose of the regulatory framework is to market and encourage infrastructure investments by insulating investors from being a victim of political opportunism due to arbitrary actions. The regulatory framework ensures that the quality of infrastructure developed is maintained and improved for the benefit of the consumers and to protect the consumers so as not to be taken advantage of by the market powers. The regulatory framework drives economic efficiency and provides the stability that is needed. It is essential that PPP regulatory framework address the impact the infrastructure and service delivery will have, and it is market structured so that it reflects the price of the service. The service quality must be acceptable and meet a set standard to avoid contractors reducing the quality by reducing cost so mechanisms should be put in place to counter such practices, such as having monitoring schemes and non-compliance penalties applied and set standards must be regulated to ensure quality at all times is maintained.

Protection of the environment is fundamental. The regulatory framework can assist in providing incentives through the application process and systems so that environmental protection is ensured and maintained regularly. The objective of a regulatory framework can be realized based on its commitment and credibility.

### *3.1.7 The project development process concerning infrastructure and service delivery:*

As stipulated and expressed by HK Yong (2010), it is crucial to understand what infrastructure project development process is all about. It is to do with the structuring and development of PPP project from its initial stages through the undertaking of feasibility studies through the design phase of the project, securing finance for the project and development of the project through to monitoring and evaluation.

The project development phase has six phases, enabling environment, project definition, project feasibility, project structuring, transaction, and post-implementation. Enabling environment encompasses laws, policies, regulations, and institutions which provide conducive surroundings that will allow for the development of infrastructure projects and details how the public and private sector can support each other in terms of their roles in the project development.

Project definition refers to the initial stage of the project before undertaking any feasibility studies because it defines the project's parameters. Project feasibility is when the project full feasibility study had been undertaken and completed. Cost-benefit analysis is carried out before the feasibility study. Project structuring is essential because based on the structure of the project, the development of the financial structure will allow for the sourcing of funds to fund the project.

The transactions component is to do with moving the project from the planning to the implementation stage. The post-implementation is to do with the project implementation and completion to allow for a test period so that monitoring can be done to identify the defects before communities and customers thoroughly utilize the project.

In terms of CBD relation to PPP, Derick Brinkerhoff & Jennifer Brinkerhoff (2011), explained that some of the PPP programs are geared towards effective delivery of goods and services and further stressed that the focus is on aiding to initiate and advance the



systems, capabilities, and skills to assist communities and organizations to help themselves. PPP and CBD are measured using several yardsticks which include; effectiveness of organizational structures and systems to deliver on the PPP and CBD objectives (budgeting, human resources, planning, monitoring and evaluation), transfer of skills and knowledge, enhancement of intellectual capital (competent demonstration of skills and knowledge) and finally social capital (networks, communication, knowledge and trust).

### **3.2 Capacity Building and Development**

Defining CBD will be a challenge since the definition varies depending on different situations and circumstances. The adoption of the definition in this paper is in line with the definition provided by Maria Rola-Rubzen and John Burges (2016), which defines CBD as essential and vital for change. The result of the change is that it enables organizations and individuals and social systems in communities towards improving their competencies and capabilities that will allow them to undertake functions and above all, allow them to manage the development process over some time productively.

Derrick Brinkerhoff and Jennifer Brinkerhoff (2011), state that CBD in itself as a concept is broad, and for one to characterize it regarding its performance metrics is impossible. They further maintained that CBD could enhance PPP programs which will influence and contribute towards economic development and growth.

#### *3.2.1 Capacity building and development accentuates a holistic and dynamic process of development:*

CBD is all about people and its institutions; the infrastructure is crucial because it relates towards people in communities and organizations to ensure that they are fully

engaged in the development and their participation in the economy and society. The communities participating in the economy can be realized and visualize through the development of schools, hospitals, roads, health and welfare systems, communication, participation and voice, information sharing, and governance. That is why CBD among communities and Lancos must be sustainable in the long run. Maria Rola-Rubzen and John Burgess (2016), further argued that when talking about CBD, it encompasses a framework of which holistic development is paramount. The holistic development of CBD is such that any local development must embrace attitudes, ambitions, opportunities, physical, human capital, and collaboration. They stress that it is not just about infrastructure and human capital improvements; it is more than that. To measure the real progress on human development in terms of CBD is not just about people's critical choices and their ability to get an education, or stay fit and healthy, or having a secure standard of living and feeling safer in oneself or the communities. The important thing that matters the most is how secure these achievements are and whether the environment and conditions are conducive and sufficient for sustained human development.

### *3.2.2 Monitoring and evaluation in capacity building and development for learning and improvement:*

It is critical in any CBD, monitoring and evaluation is an ongoing process. The ongoing monitoring and evaluation will allow for learning to take place and improvements on the process and outcomes to be realized. The difficulty will arise from a project that is long-term in terms of transformation (e.g., culture) and when changes revolve only around non-material development such as the development of soft skills and access to information. There must be trial and errors for learning to take place and improvement to come about. Not all programs are successful, but lessons learned from

failed projects can be applied to new projects so that new projects can be successful from the lessons learned from the failed projects. In terms of evaluations, it must be systematic as expressed by Maria Rola-Rubzen & John Burgess (2016), and should portray these attributes; there must be a clear objective, a set time frame must be agreed and set, and there must be a transparent sequential process and demarcation of responsibilities which clearly specified development and evaluation. The process does not apply to all, but for some, it is applicable. An example will be that infrastructure development will be applicable as opposed to information sharing and knowledge access.

### *3.2.3 Capacity Building and Development Framework*

CBD activities are associated with workshops, short or long courses, and seminars. The association to the activities as mentioned is an error or shortcoming that a lot of stakeholders (organizations who are responsible for delivering CBD skills to communities) make because they equate CBD to training for the upskilling purpose. The training and upskilling purpose is instead a small component of CBD. As illustrated by John Kauza (2002), in figure 2, he amplified that CBD framework must be holistic and cover other areas beyond just workshops and training. The CBD approach must be holistic and encompasses; individuals, institutions, teams, and policy environment, which will allow for an assessment for the adequacy of logistics, facilities, and funds. The absence of the holistic approach will contribute towards wastage of time, resources, and efforts. social capital (networks, communication, knowledge and trust).

*Holistic CBD framework*

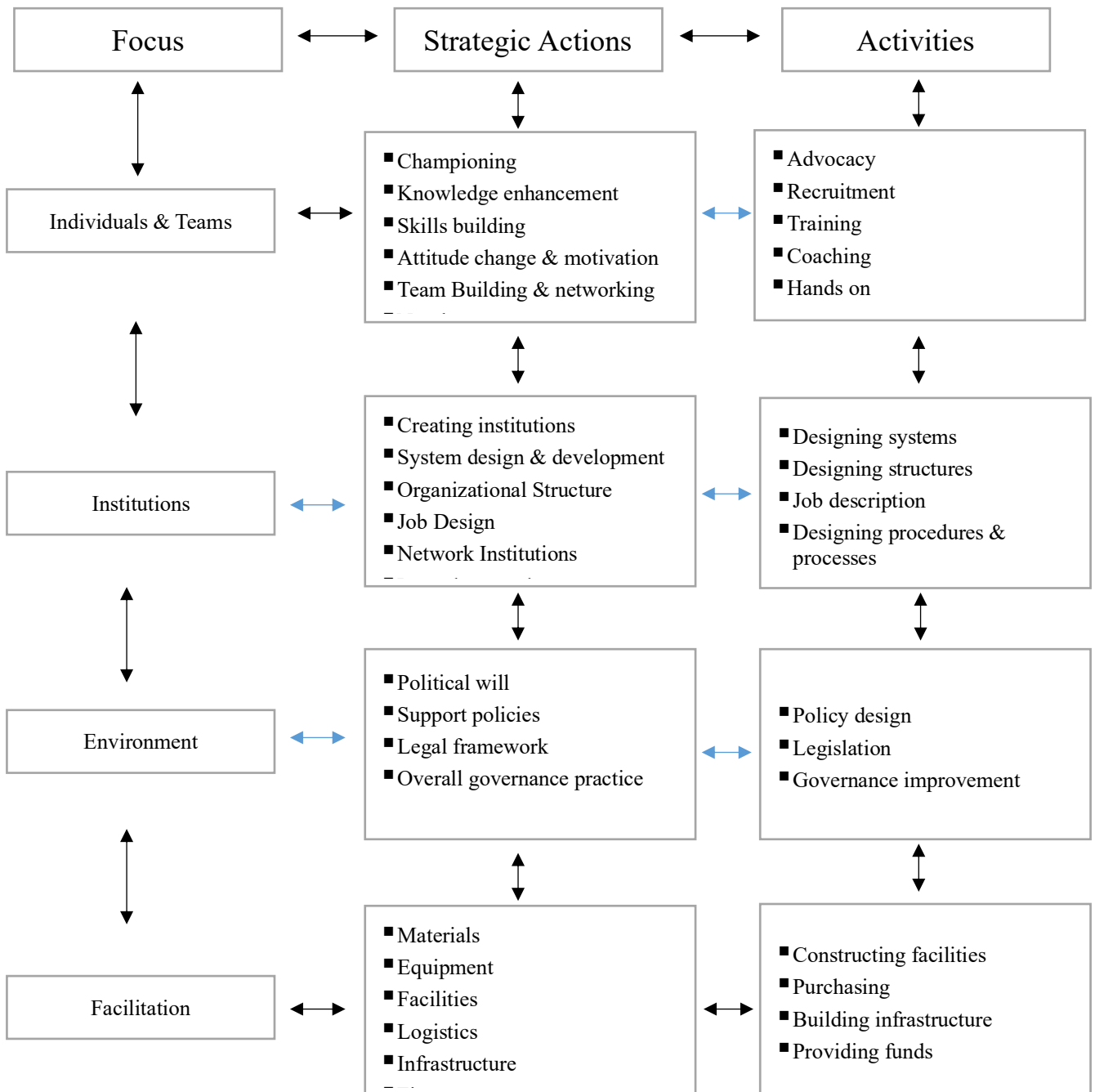


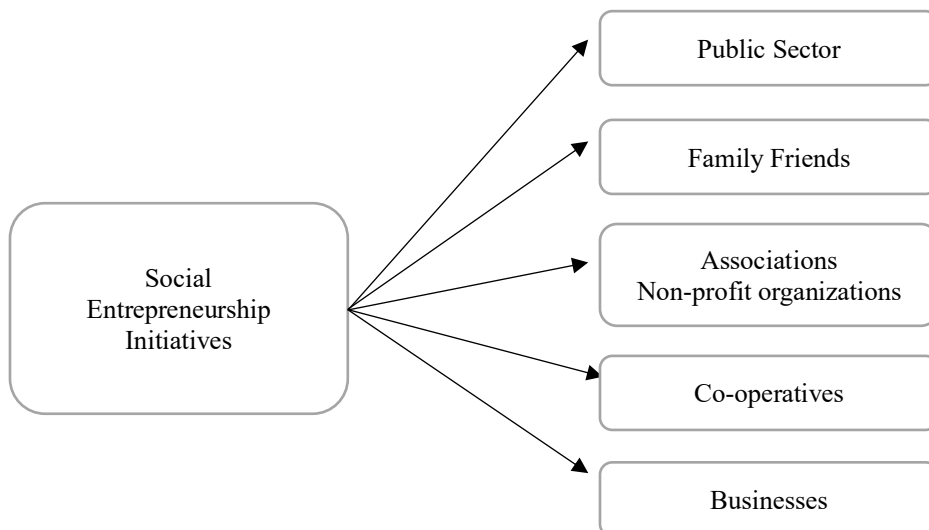
Figure 2.

CBD Framework; Source: adopted from John-Mary Kauza (2002, pp 13).

### 3.3 Social Entrepreneurship

The notion of social entrepreneurship at recent times have struck a theme with social enterprise building communities to create social value and improve livelihood among interested communities. According to Sarah Alvord, L. Brown, and Christine Letts (2004), they argued that the concept of social entrepreneurship had been adopted to solve social problems. They further argued that social problems are a composition of different circumstances. They elaborated that to solve social problems requires a dramatic shift in economic, political, and social systems. The fundamental challenges facing any social entrepreneurship is to be profitable and to grow the business, the challenges facing social entrepreneurship is to be innovative and inventive in creating social values in communities that improve livelihood and that these systems are sustainable.

*Social entrepreneurship in relation to other sectors:*



*Figure 3.*

*Social entrepreneurship relationship to different sectors and spheres in society. Source: adopted from (Gawell, 2014).*

As illustrated by Malin Gawell (2014), social entrepreneurship initiatives taken by social enterprises are much dependent on different sectors to provide cognitive practices, legal structures, and frameworks. Social entrepreneurship initiatives do not predetermine the legal structure, sector characteristics, and organizational form. These initiatives impinge on other sectors and start from the center and move out to the regulations and norms of the established structures.

It is essential to look at the characteristics of social entrepreneurship to distinguish it from business entrepreneurship. It is stressed by David Slyke and Harvey Newman (2006), that there are five (5) characteristics of social entrepreneurship that differentiate it from business entrepreneurship. When one talks about social entrepreneurship, our focus is on social entrepreneurs who are agents for change within society and communities. Agents for change as social entrepreneurs can pursue and achieved social value creation through five approaches:

- Sustaining social values through the adoption of a mission,
- Taking advantage of the opportunities to achieve the stated mission,
- Learning, adoption, innovation, and invention must be a continuous process,
- Being creative and thinking outside the box to achieve results regardless of resource limitations and,
- That there are accountability and transparency to the societies and communities to which it is serving.

They put forward that social entrepreneurship initiative success through the impact

of leverage on political, economic, and cultural evolution will portray the success of social entrepreneurship. The most challenging component is the cultural component because it is to do with how people have lived and done things for a long time and now they are told to change and do things differently, and as such, it is challenging.

According to Anne Hamby, Megan Pierce, and David Brinberg (2017), in terms of values captured, income generation is critical for any social venture because it has to be self-sustainable. For social ventures to pursue its social activities, it has to have money. The generated profit from these ventures is then put back into the community for social value enhancement and creation. They further argued that entities used resources to sustain themselves and its longevity in the business and that depended on the resources, the entity was able to create and utilize to its advantage. One of the approaches that can be adopted to bring about change is social entrepreneurship. It can be an agent of change and thus address the issue of value appropriation and resource generation.





## **CHAPTER 4: THEORETICAL FRAMEWORK AND HYPOTHESES**

The objective of the paper is to analyze and determine the role of PPP in how it contributes towards CBD in promoting social entrepreneurship. The framework integrates the variables as discussed in the literature review to create a hybrid framework to guide the discussion in this research. Thus, the hypotheses are developed to define the relationship between the variables as expounded in the literature review and to find answers to the questions as posed.

### **4.1 Conceptual framework**

The paper reviewed various definitions of PPP, CBD, and social entrepreneurship in the context of this research based on the literature review to conceptualize the framework for this research. The paper examined different framework based on the literature that is related to the variables (PPP, CBD, and social entrepreneurship) being measured to develop a hybrid framework for this research.

The paper looks at Lancos along the PNG LNG pipeline and their business activities to see if they are profit-seeking or social. The main reason the paper is pursuing this objective is that the Lancos are companies that were created to engage in business activities on behalf of their communities in the project impacted areas and it is due to this reason that value creation in those communities is essential for a sustainable social and economic outcome.

For the social and economic outcome to be realized, the paper undertook to understand the relationships between the PPP, CBD, and social entrepreneurship based on the literature and to see if that relationship exists between the current stakeholders of the PNG LNG project. The literature on PPP based on the review showed an asymmetric

relationship between PPP and CBD but not much in terms of its asymmetry with social entrepreneurship. In terms of literature on social entrepreneurship, there is a strong asymmetry between CBD based on goods and service delivery.

It is crucial to explore the linkages between PPP, CBD, and social entrepreneurship. Is there a direct correlation in terms of these relationships? For this research, it is essential to look at this phenomenon because it will contribute immensely towards understanding the challenges that are facing the PPP, CBD, and social entrepreneurship in communities and societies, and for this research the communities along the PNG LNG pipeline, and Lancos. Different frameworks were reviewed based on the literature to see the best applicable framework for this research, and this is the foundation for the hybrid framework that is developed here in this research.

#### 4.2 Research framework

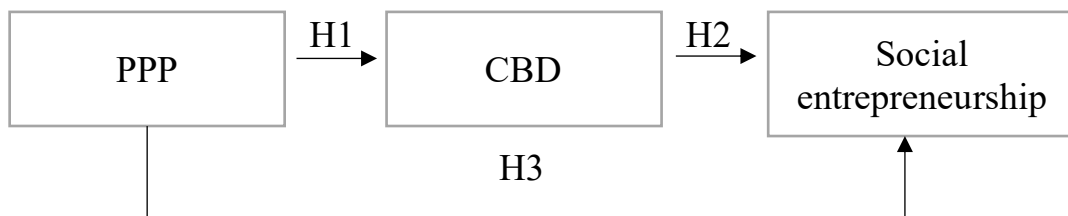


Figure 4.

Research Framework integrating all the variables as discussed in the literature review.

#### 4.3 Hypotheses

The first hypothesis is: PPP contributes towards CBD.

Sustainability:

According to Derick Brinkerhoff and Jennifer Brinkerhoff (2011), PPP programs in some instances focus on service delivery needs and as such its primary objective is to

enhance and develop new skills, to improve and build new systems, and capabilities to assist organization and communities to be self-reliant going forward into the future.

The second hypothesis is: CBD will enhance and drive social entrepreneurship.

Value Creation:

Boris Urban (2008), stressed that social entrepreneurship is an innovative and creative approach in doing business, and to be innovative and creative over some time is difficult. Due to this fact, it is essential to create a conducive environment in which CBD can develop and enhanced for the social purpose to create value among communities and organizations.

The third hypothesis is: PPP has a positive impact on social entrepreneurship.

Social entrepreneurs:

George Cheney (2005), points out that the creation of new organizations, and reviving of old ones are due to government agencies engagement in PPP programs. The creation and revival of the old organizations involve pursuit through an innovative approach, which is project focused.

The first question for the first hypothesis is; Is PPP contributing towards CBD? PPP was investigated to see if it influenced the outcome of CBD in the communities impacted by the PNG LNG gas project. In other words, do the PPP programs under the MoAs cater for CBD? From the literature review, PPP influences the outcome of CBD in the communities impacted by the LNG gas project. The PPP program has contributed significantly towards Lancos operational structures, through the diversification in the investment portfolios of the Lancos.

The second question for the second hypothesis is; Does CBD contribute towards the creation of social enterprise? The business nature and objective of the Lancos must

be grasped to understand if their objective is ‘asset accumulation and profit’ or if it is ‘social value creation’.

The third question for the third hypothesis is; Do PPP programs have a positive impact and effect on social entrepreneurship? Social entrepreneurs create social enterprise entities, and their business activities are known as social entrepreneurship. According to the literature, the field of social entrepreneurship is new, and there is no universal definition of social entrepreneurship. Most of the literature reviewed do agree that social entrepreneurship is about creating social value within communities through being innovative and creative in doing business.

#### **4.4 Measurement and research variables**

This section introduces the subjects and variables utilized in the survey. The subjects measured in this research are the investors/developers in the PNG LNG project and the beneficiaries of the PNG LNG project, which are the two Lancos and a government department (Department of Petroleum). The variables consist of two independent variables, which are PPP, CBD, and a dependent variable, which is social entrepreneurship.

#### **4.5 Public private partnership**

In defining PPP, the paper adopted the definition from HK Yong (2010), which is applicable in this research. For the survey, the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) PPP model was adopted based on four critical factors that are vital to any PPP program; policy formulation, legal and regulatory framework, financial support and institutional arrangements.

Policy formulation: It is crucial that a precise policy formulation design is in place for the successful implementation of PPP programs. The policy formulation will define the long-term vision and strategy for the implementation of the PPP programs to deliver public infrastructure and community enhancement projects. The policy document will address the objectives of the PPP program, the sectors to be engaged, the type of PPP models that will be adopted, and the implementation strategy.

Legal and regulatory framework: The second important factor in establishing a sound PPP environment involves the compatibility of the legal and regulatory framework. PPP programs depend on both public, and private investment as such, legislation must be enacted to ensure the protection of both the public and private sector in the PPP programs. The legislation will define a clear legal basis for competent authorities who should approve PPP projects and enter into PPP contracts. It should detail private participation eligibility and the type of foreign investment that is required. The other vital factor is the procurement rules which determine what conditions are in place to establish a fair, transparent, and competitive bidding process. There should also be a dispute resolution mechanism in place for the PPP program.

Financial Support: There must be a provision in terms of financial contribution from the government and the private sector towards any PPP projects. It must address the issue of foreign investments and loan packages for the PPP programs.

Institutional arrangements: A transparent allocation of responsibilities set across government entities for the implementation of PPP programs in terms of administration and technical skills sets to monitor, evaluate, and implement PPP programs.

According to HK Yong (2010), the above framework from developed countries experience are essential in putting together successful PPPs in developing countries and

emerging economies. He maintains that it is vital to have a suitable regulatory framework in place instead of reinventing the wheel for each contract.

Thus, the framework above was used in the survey to measure PPP using the 7-point Likert scale. On the Likert scale, one denotes strongly agree, and seven denotes strongly disagree.

#### **4.6 Capacity Building and Development**

The paper looked at CBD as an outcome of the PPP program for community socio-economic development sustainability, and Lancos greater involvement in community participation through partnering with government and PNG LNG license operators for business benefits.

In defining CBD, the paper embraces the definition of Maria Rola-Rubzen and John Burgess (2016), because it fits into the narrative of this thesis. In the survey, we choose to adopt the UNDP, CBD framework from Atsushi Matachi (2006), since it is in line with the hybrid framework as developed from the literature review. Three factors, environment, organization, and individual are settled on to explain and interpret CBD in the context of the framework, as illustrated in figure 4.

Environment: Capacity building and development at the environment stratum covers all conditions and surroundings that are vital and important for upholding, sustaining, and demonstrating capacity at the organizational and individual levels. The design, development, and implementation of strategies beyond individual organizations depends on an environment that incorporates appropriate systems and frameworks. The dimensions are various, and the following are a few of them: legal, administrative, economic, political, cultural, and social, which have a bearing on the outcome of CBD

efforts.

Organization: At the organizational level, the individual capacities are determined and strengthened for utilization accordingly. It usually relates to any organizational performance that is impacted by anything applicable to its outcome. The organizational performance effectiveness depends on management, physical resources, human resources, intellectual resources, strategic planning, incentives, and reward systems.

Individual: Concerning CBD, the individual component is the fundamental element of capacity. Innovation and creativeness are essential for any entity to be successful based on individual skill sets. The values, attitudes, health, awareness, and skills can be developed and enhanced by formal or informal education, on the job training, training, trial, and error, and reading.

According to Dianne Smith (2005), CBD is about individuals, groups, communities and institutions building and developing their abilities both individually and collectively so that they can solve problems and be able to comprehend their development needs in a sustainable manner and in a broader context.

The measurement of CBD utilizes the framework in figure 4, and the 7-point Likert scale was adopted. On the Likert scale, one denotes strongly agree, and seven denotes strongly disagree.

#### **4.7 Social Entrepreneurship**

Social entrepreneurship is all about taking advantage of and seizing opportunities in creating social value in communities through market-changing innovation and invention. The definition of social entrepreneurship in the context of the conceptual framework in figure 4 derives from Johanna Mair, Jeffrey Robinson, and Kai Hockerts

(2006).

Creating social value: The notion behind this is about contributing to communities and individual well-being in society and for society to function as an organized entity and be able to realize its potential.

Taking advantage of opportunities: This comes about when an opportunity presents itself and is used for the benefit of the communities, organizations, institutions, and for individual successes. 1. Failures do come but learn from it and move on. 2. In the event of a failure, it is crucial to learn the lesson from the failure and to keep moving forward.

Innovation and invention: Invention refers to the creation of a new product or systems and processes to meet the communities, organizational, individual demands, and needs effectively and efficiently. Innovation, on the other hand, is the improvement of production, product function, and processes and systems that are currently in place to increase efficiency and output.

Taking the risk: Involves communities, organizations, and individuals taking the chance to bring a positive outcome to their respective communities, organization, and individual. It is essential to avoid the severe outcome, so taking calculated risk is advisable.

Social enterprise and entrepreneurship usually are used interchangeably, but both terms differ in characteristics. According to Belind Luke and Vien Chu (2013), social enterprise is a business entity with a social focus while social entrepreneurship is the activities of the social enterprise to achieve a social outcome.

The framework above was utilized in the survey to measure social enterprise, and again, the 7-point Likert scale was the chosen method of measurement.



#### **4.8 Control variables:**

The control variables that were used to test the effect of the models about the conceptual framework were; age, gender, position, years in service, education level, and public or private organizations respectively.

## **CHAPTER 5: RESEARCH METHODOLOGY**

This chapter elaborate further on the research methodology used in this research paper. The section describes and explains the measurements of the data through the application and the outcome of the statistical analysis. The paper utilizes both the qualitative and quantitative method in its research. According to Anthony Onwuegbuzie and Nancy Leech (2003), it is essential to use both qualitative and quantitative methods in research so students both graduate and undergraduate can develop and become pragmatic researchers.

### **5.1 Source of data**

The research adopted the use of both the primary and secondary sources of data. The literature review based on social enterprise, social entrepreneurs, social entrepreneurship, PPP, and CBD constitutes the secondary source of data. The Ritsumeikan Asia Pacific University library resources, both electronic and hard copy, were used to collect information that forms the basis for this paper. The hypothesis and research questions were formulated based on the secondary source of data.

In terms of the primary source of data, a survey questionnaire was sent out by email to the participating organizations to participate in the survey. The analysis was done based on the respondents' response to the survey. The organizations which participated in the survey are two PNG LNG license operators; EMPNG, OSL (the two investors and developers of the project), the Department of Petroleum and Energy (the oil and gas regulator in PNG) and two Landowning companies; Boera Holdings Limited and Laba Holdings Limited. There was a one on one interview with the EMPNG National Content Manager, the OSL Community Affairs Manager, the General Manager for Laba Holdings

Limited and Boera Holdings Limited respectively.

The survey consisted of three components. The first component involved PPP and consisted of ten questions. The first three questions (1-3) addressed the issue of policy formulation, followed by questions 4-6, which took into account the legal and regulatory framework. Questions 7-8 focused on the financial support and questions 9-10 addressed the institutional arrangements of each organization. For the survey on PPP, we adopted the questionnaires from the World Bank report on Benchmarking PPP Procurement by David Bexter (2017).

The second component of the survey focused on CBD and consisted of ten questions. Questions 1-4 focused on the environment; questions 5-7 addressed the organization and questions 8-10 looked at Individuals. For the CBD survey, we adopted the questionnaires from the Public Health Agency of Canada on Community Capacity Building Tool (2003).

The third component of the survey was about social entrepreneurship. The survey questionnaires again consisted of ten questions. Questions 1-2 looked at taking advantage of opportunities, questions 3-4 focused on taking risks, questions 5-7 were about innovation and invention, and questions 8-10 addressed the issue of social value creation. For the social entrepreneurship survey, we adopted the questionnaires from the United Nations Development guide on Capacity Assessment Methodology (2008).

In terms of the qualitative questions, three guiding questions were developed and were put forward to the participants participating in the survey and one on one interview. The guiding questions were as follows:

1. In your opinion, are there PPP legislation, rules or regulations that provide clarity on the definition of PPP, that lay out a process for approval, procurement and regulation

of projects through construction and approval stages and that specify which public authorities can sign the PPP agreements? Please elaborate.

2. Have you identified areas for improvement in community structures that your project could work on? Examples are project management and policy development. Please elaborate.

3. Do you think that the Public-Private Partnership act 2014 improved communities in terms of the legal and regulatory framework to upscale the current business model nationwide? please do elaborate.

## **5.2 Population and sampling**

The sampling method applied for this survey was the non-probability sampling method, and from that convenience sampling was used. The disadvantage of using convenience sampling is that it can be volunteer bias. Due to time constraints and availability of the participants, it was the best sampling method available to utilize. According to Nadim Nachar (2008), it was evident that certain studies, due to its nature, often involve small samples even though the intention is to collect normally distributed samples. The lack of resources such as time and money impede the collection of normally distributed samples. He stressed that small samples are liable to be methodologically questioned, but they can be of great use when one infers a conclusion on the population based on the application of an appropriate statistical test.

## **5.3 Reliability analysis: Cronbach's $\alpha$ (Alpha)**

To validate the questionnaire for the assessment of data a reliability analysis was undertaken using Cronbach's  $\alpha$ . It is amplified by Andy Field (2005), that any scale used

must undergo reliability test. The reliability test will ensure that individual items should be consistent with the result obtained for the overall questionnaires. The Cronbach's  $\alpha$  was adopted to test the reliability of the questionnaires. Cronbach's  $\alpha$  is one of the most utilized methods when it comes to measurement of scale reliability. Cronbach's  $\alpha$  splits data twice in every possible way and the correlation coefficient for each split is computed.

The formula for Cronbach's  $\alpha$  is; 
$$\alpha = \frac{N^2 \overline{cov}}{\sum s_{item}^2 + \sum cov_{item}}$$

The formula might look complicated but it is very easy to interpret and use. From the formula, there are two things to consider; first is the variance within the item and the covariance between a specified item and the other item on the scale. The top half of the equation represents the number of items denoted by (N) and is squared and then is multiplied by the average covariance between items denoted by cov. The bottom half represents the sum of all the item variances and covariances. The thirty questions which were 10 questions per variable was tested using Cronbach's  $\alpha$  for its reliability.

#### **5.4 Kendall's tau (non-parametric)**

Kendall's tau,  $\tau$ , is used in this research due to the data set here being small, and many ranks are tied. It is pointed out by Andy Field (2005) that Kendall's statistics is more preferred because it is a better estimate of the correlation in the population. Kendall's statistic is better because there is more accuracy in terms of generalization compared to Spearman's statistic.

#### **5.5 Mann-Whitney U**

The model structure for this research is different and not specified a priori; as such,

the application of non-parametric test based on and determined by the data. The Mann-Whitney U test is utilized in this research because it can be used to answer questions concerning the difference between the two groups. Another reason for the utilization of the Mann-Whitney U test is because the number of subjects in the sample is small and the variables are of an ordinal type and were recorded with an arbitrary scale and not a very precise scale as such the application of Mann-Whitney U test.

### **5.5.1 Calculating an effective size**

It is crucial to report effective size in the Mann-Whitney U test. According to Andy Field (2005), in order to make a comparison to other studies, it is essential to calculate the effective size. The SPSS statistical software report generated from the input data does not compute the effective size as such, the manual computation of effective size is necessary. The vital thing to note is that SPSS converts the test statistics into a z-score. The following formula will convert the z-score into the effective size measurement. In order to find 'r' the following formula is required:  $r = \frac{z}{\sqrt{N}}$ . In the formula, r is the z-score that SPSS produces and the size of the study is denoted by N (i.e. it the total number of observations) on which z is based.



## CHAPTER 6: ANALYSIS AND RESULTS

In this chapter, the paper analyses the statistical output of data from both the SPSS generated results and the raw data from the respondents' feedback from the survey. The survey utilized the google form, and the participants of selected organizations received the survey form via the email. The results from the reliability test using the Cronbach's  $\alpha$  will constitute the discussions in this chapter as well as the presentation of the validation assumption using the Mann-Whitney U test underlying the research model. The bivariate correlation is applied because the research focus is on the relation between two variables at any one time. Kendall's correlation will be used for the correlation coefficients to establish the type of relationships between the variables.

### 6.1 Descriptive statistics

#### *6.1.1 Control variables statistical outcomes:*

In the sampled population, thirty-nine (39) participants took part in the survey. There were thirty questions in total, and each item, PPP, CBD, and social entrepreneurship had ten (10) questions, respectively. The survey questionnaires for all the participants were standardized. A total of thirty-five participants out of the population sample responded to the survey that was emailed out to them, and the remaining four (4) participants, participated through a one on one interview.

Out of the total number of participants, EMPNG had fifteen respondents and one interviewee, while OSL had twelve respondents and one interviewee. The Department of Petroleum and Energy had three respondents, while Laba Holdings Limited had four respondents and one interviewee and Boera Holdings Limited had four respondents and



one interviewee. The divisions within each companies that participated in the survey are the Community Affairs section and business development section from OSL; for EMPNG, the Community Development and National Content section participated in the survey; for the Department of Petroleum and Energy, Pipeline and New Exploration division took part in the survey. For the two Lancos, the sections' that participated (Laba Holdings Limited and the Boera Holdings limited) came from the operations.

Concerning gender participation, sixty-eight (68%) percent were male, which equated to twenty-four respondents, and thirty-two (32%) percent were females, which constitute eleven respondents. The age limits of participants were as follows; 20 years or younger 0%=0, 21-30years, 11%=4, 31-40years, =10, 41-50years, 34%=12, 51 years or older 26% =9. The age group between forty one and fifty had the highest number of respondents, and that is due to most of the respondents who participated were managers, fifty-seven percent (20) and supervisors or below thirty-one percent (11) and the balance is the executive level eleven percent (4). In consideration of the Education level of the respondents, most of the people who participated had a University level education which constituted eighty percent (28) of the respondents and twenty percent (7) had Tertiary or college level education.

*Control variables summary table from the survey:*

Age			Gender			Education level			Years in Service			Management level		
Age Range	%	Number	Gender	%	Number	Education level	%	Number	Years in Service	%	Number	Positions	%	Number
20 or younger	0	0	Male	69	24	University	80	28	5 or less	3	1	Executive	11	4
21-30	11	4	Female	31	11	College	20	7	6-10	40	14	Manager	57	20
31-40	29	10				Senior High	0	0	11-20	34	12	Supervisor	31	11
41-50	34	12				21-30	23	8						
51 or older	26	19				31 or More	0	0						

Table 1.

## 6.2 Quantitative Analysis based on the survey

The analysis undertaken in this section comes from SPSS generated report from raw data from the survey. The table is as attached below. The first data analysis is on the reliability test of the survey questionnaires using Cronbach's  $\alpha$ . The analysis that followed is Kendall's tau correlation, which is utilized to see the relationship between the variables being measured to ascertain whether the correlation is positive or negative. Finally, the Mann-Whitney U test, by observing the difference in the ranked positions of scores in the two groups (investors/developers and Beneficiaries).

### 6.2.1 Reliability test: Cronbach's $\alpha$ :

#### 6.2.1.1 Public-Private Partnership:

##### *Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha Based on Standardised	
	Items	N of Items
.728	.753	6

Table 2.

##### *Item-Total Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Public-Private Partnership 1.3	14.9167	9.819	.376	.205	.714
Public-Private Partnership 1.5	15.7083	7.433	.501	.460	.692
Public-Private Partnership 1.6	15.5417	7.303	.591	.444	.649
Public-Private Partnership 1.7	15.9583	9.781	.421	.485	.703
Public-Private Partnership 1.8	15.7083	9.694	.575	.537	.676
Public-Private Partnership 1.9	15.5000	10.087	.451	.380	.700

Table 3.

The initial Cronbach's  $\alpha$  is .625 but the accepted reliability of the scale must be .7 and .8 or higher. By looking at the column *Corrected Item-Total Correlation* it was identified that questions PPP 1.1, PPP 1.2, PPP1.4 and PPP 1.10 had a low correlation in relations to overall score from the scales so those questions were dropped resulting in the Cronbach's  $\alpha$  moving up to .728 which indicate good reliability.

6.2.1.2 Capacity Building and Development:

*Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.969	.970	6

Table 4.

*Item-Total Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Capacity Building and Development 2.3	10.0000	13.739	.942	.947	.960
CBD 2.4	10.1250	14.114	.834	.706	.970
CBD 2.6	9.9583	14.216	.886	.793	.965
CBD 2.8	10.0000	13.043	.924	.933	.961
CBD 2.9	10.0000	13.130	.906	.923	.963
CBD 2.2	9.9167	12.688	.931	.951	.961

Table 5.

The values in the column Corrected Item-Total Correlation shows that all items correlate except for CBD 2.4, 2.7 and 2.10,. The Cronbach's  $\alpha$  is way above 0.7 and 0.8 as such the items need to be dropped to improve the Cronbach's  $\alpha$ . So, item, CBD 2.2, CBD 2.4 and 2.7 and CBD 2.10 will be dropped.

6.2.1.3 Social Entrepreneurship:

*Reliability Statistics*

Cronbach's Alpha	Cronbach's Alpha Based on Standardised Items	N of Items
.982	.984	6

Table 6.

*Item-Total Statistics*

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
SE 3.3	9.5417	24.868	.963	.961	.977
SE 3.4	9.5417	24.781	.972	.974	.976
SE 3.5	9.6667	26.145	.969	.971	.976
SE 3.6	9.7917	28.172	.936	.930	.981
SE 3.7	9.7917	26.172	.913	.853	.982
SE 3.8	9.7917	26.868	.926	.883	.980

Table 7.

The Cronbach's  $\alpha$  is 0.982 and after running the reliability test and by analyzing column *Corrected Item-Total Correlation* one can see that the results correlated with Cronbach's  $\alpha$ . The *Cronbach's Alpha if Item Deleted* column shows that all items correlate with the Cronbach's  $\alpha$ .

### 6.3 Correlation between control variables, independent variables and dependent variables

Correlations

		Company	Position	Years of Service	Age	Gender	Education	Pubic Private Partnership	Capacity Building and Development	Social Entrepreneurship	
Kendall's tau_b	Company	Correlation Coefficient	1.000								
		Sig. (2-tailed)									
		N	35								
Position		Correlation Coefficient	-.444**	1.000							
		Sig. (2-tailed)	0.007								
		N	35	35							
Years of Service		Correlation Coefficient	-.336*	-0.040	1.000						
		Sig. (2-tailed)	0.037	0.797							
		N	35	35	35						
Age		Correlation Coefficient	0.074	-.474**	.531**	1.000					
		Sig. (2-tailed)	0.637	0.002	0.000						
		N	35	35	35	35					
Gender		Correlation Coefficient	-.369*	0.156	-0.225	-.310*	1.000				
		Sig. (2-tailed)	0.032	0.345	0.162	0.049					
		N	35	35	35	35	35				
Education		Correlation Coefficient	0.294	0.237	-0.139	-0.004	-0.145	1.000			
		Sig. (2-tailed)	0.086	0.151	0.389	0.982	0.399				
		N	35	35	35	35	35	35			
Pubic Private Partnership		Correlation Coefficient	.310*	-0.087	-0.034	-0.006	-0.228	0.232	1.000		
		Sig. (2-tailed)	0.035	0.537	0.807	0.964	0.120	0.113			
		N	35	35	35	35	35	35	35		
Capacity Building and Development		Correlation Coefficient	0.113	0.238	-0.080	-0.187	-0.058	0.187	.317*	1.000	
		Sig. (2-tailed)	0.464	0.110	0.583	0.188	0.705	0.226	0.017		
		N	35	35	35	35	35	35	35	35	
Social Entrepreneurship		Correlation Coefficient	0.205	0.244	-0.116	-0.166	-0.063	0.201	.254*	.660**	1.000
		Sig. (2-tailed)	0.173	0.093	0.412	0.231	0.677	0.181	0.049	0.000	
		N	35	35	35	35	35	35	35	35	35

\*\* . Correlation is significant at the 0.01 level (2-tailed).

\* . Correlation is significant at the 0.05 level (2-tailed).

Table 8.

There is a correlation between the two independent variable and the dependent variable which shows a positive relationship and agrees with the conceptual framework in figure 4 and the stated hypotheses.

The correlation coefficient between PPP and CBD is about .317 and a p-value of 0.017 which is less than 0.05 so the correlation is significant. The correlation coefficient between PPP and social entrepreneurship is .254 and the p-value is 0.049 which is less than 0.05 as such the correlation is good. The correlation coefficient between CBD and

social entrepreneurship is .660 and a p-value of 0.000 which is less than 0.05 as such the correlation is very high.

#### 6.4 Mann-Whitney U test: Developers/Investors and Beneficiaries

Rank between the investors/developers (EMPNG & OSL) and beneficiaries (LHL, BHL, & DoP)

Mann-Whitney Descriptive Statistics:

	N	Mean	Std. Deviation	Minimum	Maximum
Pubic Private Partnership	35	18.4000	4.20224	9.00	25.00
Capacity Building and Development	35	12.4571	3.95075	6.00	20.00
Social Entrepreneurship	35	12.1429	5.21391	6.00	23.00
Company	35	1.2286	0.42604	1.00	2.00

Table 9.

The table above provides the description of the variables being measured using the SPSS. The table is not that significant because it is giving us an amalgamated data and as such will be a bit difficult because in order for us to compare the group we need individual group data.

Mann-Whitney Ranks:

Company		N	Mean Rank	Sum of Ranks
Pubic Private Partnership	Developers	27	16.02	432.50
	Beneficiaries	8	24.69	197.50
	Total	35		
Capacity Building and Development	Developers	27	17.35	468.50
	Beneficiaries	8	20.19	161.50
	Total	35		
Social Entrepreneurship	Developers	27	16.74	452.00
	Beneficiaries	8	22.25	178.00
	Total	35		

Table 10.

The first table that provides information on the Mann-Whitney U test is the rank table (i.e. is investors/developers and beneficiaries). The significance of the table is that it indicates which group has a high opinion on the variables being measured. The measurement is done by looking at the mean rank column. In table 9, three variables are

being ranked, but the important thing is the investors/developers and beneficiaries ‘mean rank’ in regard to the three variables that indicate whether there is a statistical difference in their observations.

Mann-Whitney U Test Statistics:

<i>Test Statistics<sup>a</sup></i>			
	Pubic Private Partnership	Capacity Building and Development	Social Entrepreneurship
Mann-Whitney U	54.500	90.500	74.000
Wilcoxon W	432.500	468.500	452.000
Z	-2.113	-0.732	-1.361
Asymp. Sig. (2-tailed)	0.035	0.464	0.173
Exact Sig. [2*(1-tailed Sig.)]	.034 <sup>b</sup>	.499 <sup>b</sup>	.192 <sup>b</sup>

a. Grouping Variable: Company  
b. Not corrected for ties.

Table 11.

Based on the Mann-Whitney U test from the output of the tables above the following results were obtained;

*Public-private partnership:*

In terms of the observation of PPP variable the following outcome was attained; investors/developers’ observation (Mean rank = 16.02) is deemed to differ from beneficiaries (Mean rank = 24.69),  $U = 122.00$ ,  $p > 0.035$ ,  $r = -0.36$ . The effective size is  $-0.36$  and the p-value less than 0.05 so the null hypothesis is rejected. From the outcome, it can be observed that investors/developers and beneficiaries statistically differ in their observation on PPP.

*Capacity Building and Development:*

The observation on CBD produced the following outcome; investors/developers’ observation (Mean rank = 17.35) is deemed to differ from beneficiaries (Mean rank = 20.19),  $U = 90.500$ ,  $p > 0.464$ ,  $r = -0.12$ . The effective size is  $-0.12$  and the p-value is

greater 0.05 so the null hypothesis is retained. From the outcome, it can be observed that investors/developers and beneficiaries statistically differ in their observation on CBD.

*Social Entrepreneurship:*

In regard to observation on social entrepreneurship the following results was produced; investors/developers’ observation (Mean rank = 16.74) is deemed to differ from beneficiaries (Mean rank = 22.25),  $U = 74.000$ ,  $p > 0.173$ ,  $r = -0.23$ . The effective size is -0.23 and the p-value is greater 0.05 so the null hypothesis is retained. From the outcome, it can be observed that investors/developers and Beneficiaries statistically differ in their observation on social entrepreneurship.

**6.5 Mann-Whitney U test: EMPNG and OSL**

*Mann-Whitney U Descriptive Statistics:*

ExxonMobil (PNG) Limited and Oil Search (PNG) Limited

*Descriptive Statistics*

	N	Mean	Std. Deviation	Minimum	Maximum
Pubic Private Partnership	35	18.4000	4.20224	9.00	25.00
Capacity Building and Development	35	12.4571	3.95075	6.00	20.00
Social Entrepreneurship	35	12.1429	5.21391	6.00	23.00
Company	35	1.9714	1.15008	1.00	5.00

Table 12.

As mention above the table is not relevant but it is the significance of the mean aggregation that is important as such the table is inputted.



*Mann-Whitney U Ranks:*

<i>Ranks</i>				
Company		N	Mean Rank	Sum of Ranks
Public Private Partnership	EMPNG	15	13.37	200.50
	OSL	12	14.79	177.50
	Total	27		
Capacity Building and Development	EMPNG	15	11.93	179.00
	OSL	12	16.58	199.00
	Total	27		
Social Entrepreneurship	EMPNG	15	10.77	161.50
	OSL	12	18.04	216.50
	Total	27		

Table 13.

This table provides information on the Mann-Whitney U test on two groups and that is EMPNG and OSL (i.e. is the two investors/developers). The significance of the table is that it indicates which group has a high opinion on the variables being measured. This is done by looking at the mean rank column. In table 14, three variables are being ranked, but the essential element is the EMPNG and OSL ‘mean rank’ in regard to the three variables that indicate whether there is a statistical difference in their observation.

*Mann-Whitney U Test Statistics:*

<i>Test Statistics<sup>a</sup></i>	Public Private Partnership	Capacity Building and Development	Social Entrepreneurship
Mann-Whitney U	80.500	59.000	41.500
Wilcoxon W	200.500	179.000	161.500
Z	-0.467	-1.588	-2.443
Asymp. Sig. (2-tailed)	0.641	0.112	0.015
Exact Sig. [2*(1-tailed Sig.)]	.648 <sup>b</sup>	.139 <sup>b</sup>	.016 <sup>b</sup>
a. Grouping Variable: Company			
b. Not corrected for ties.			
Exact Sig. [2*(1-tailed Sig.)]	.648 <sup>b</sup>	.139 <sup>b</sup>	.016 <sup>b</sup>
a. Grouping Variable: Company			
b. Not corrected for ties.			

Table 14.

*Public-Private Partnership:*

In terms of the observation of PPP variable the following outcome was attained; EMPNG (Mean rank = 13.37) is similar from OSL (Mean rank = 14.79),  $U = 80.50$ ,  $p > 0.64$ ,  $r = -0.09$ . The effective size is  $-0.09$  and the p-value greater than  $0.64$  so the null hypothesis is rejected. From the outcome, it can be observed that EMPNG and OSL are statistically similar in their observation on PPP.

*Capacity Building and Development:*

The observation on CBD produced the following outcome; EMPNG observation (Mean rank = 11.93) is deemed to differ from OSL (Mean rank = 16.58),  $U = 59.00$ ,  $p > 0.11$ ,  $r = -0.31$ . The effective size is  $-0.11$  and the p-value is greater than  $0.05$  so the null hypothesis is retained. From the outcome, it can be observed that EMPNG and OSL statistically differ in their observation on CBD.

*Social Entrepreneurship:*

In regard to observation on social entrepreneurship the following results was produced; EMPNG (Mean rank = 10.77) is similar to OSL (Mean rank = 18.04),  $U = 41.50$ ,  $p > 0.01$ ,  $r = -0.57$ . The effective size is  $-0.47$  and the p-value is less than  $0.05$  so the null hypothesis is rejected. From the outcome, it can be observed that EMPNG and OSL are statistically similar in their observation on social entrepreneurship.

## **6.6 Qualitative analysis based on the survey**

*Guiding question 1:*

In your opinion, are there PPP legislation, rules or regulations that provide clarity

on the definition of PPP, that lay out a process for approval, procurement and regulation of projects through construction and approval stages and specify which public authorities can sign the PPP agreements? Please elaborate:

From the interview conducted with Community Affairs Manager for OSL, he stressed that there is no PPP legislation in place in Papua New Guinea. In terms of the PPP arrangements between the national government and OSL, it is legally binding through a MoA.

The Community Affairs Manager of OSL further iterated that all aspects of PPP including legal and regulatory framework, financial support, and Institutional arrangements were all captured with the PPP MoA signed between the Government of PNG and OSL. The interview conducted with the National Content manager for EMPNG revealed that EMPNG and the government have the same arrangements that is similar to OSL concerning the legal and regulatory framework, financial support, and institutional arrangements.

*Guiding Question 2:*

Have you identified areas for improvement in community structures that your project could work on? Examples are project management and policy development. Please elaborate.

EMPNG has developed its Community Development Support Management Plan-Production to ensure its community obligation is delivered accordingly. The plan is in

line with PNG laws and regulations and international treaties and conventions. The difference is that a third party manages the plan for its implementation. It is managed and implemented by Esso Highlands Limited. EMPNG primary focus is on the hydrocarbons in the pipeline.

OSL, on the other hand, is operating through its social responsibility strategic plan, which is guided by its social responsibility policy. According to one of the respondents from the survey, “at Oil Search (PNG) Limited, the company strives to improve its participation in terms of its corporate social responsibility, and also it endeavors to address problems that arise as the partnership progresses to mitigate risks.” OSL is directly involved with the Lancos and national government of PNG to support and build capabilities in the areas of women empowerment, community health, literacy and education, local enterprise, business development, and climate change adaptation.

*Guiding Question 3:*

Do you think that Public-Private Partnership act (2014) improved communities in terms of the legal and regulatory framework to upscale the current business model nationwide? Please do elaborate on your opinion.

From the survey, most respondents emphasized that there is no PPP legislation in place. The current PPP arrangements in place are through a MoA that legally binds the agreement between respective companies and the national government.

One of the respondents from the survey stressed, “in my opinion, there is no PPP legislation in place, but the PPP arrangement is through MoA between the government, investors/developers and landowner companies. All parties abide by the terms of reference within the MoA which legally binds the PPP arrangement. That includes rules, regulations, and the definition of the PPP arrangement as spelled out in the MoA.”

## **CHAPTER 7: DISCUSSION OF FINDINGS**

The objective of this section is to interpret and describe the significance of the analysis and findings, as stated in chapter six. Based on the analysis and results in chapter six, this chapter will explain new understanding or insights that emerged as a result of the study into social entrepreneurship in PNG. The discussions in this chapter bring together discussions from chapter one to chapter six and to discuss the relationship between the variables in line with the conceptual framework in figure 4.

### **7.1 Discussion**

The conceptual framework in figure 4 guide the essence of this research. The research was design to investigate social entrepreneurship in PNG, and the focus was on the PPP programs and CBD with communities and the Lancos, and to see if the concept of social entrepreneurship is part of the PPP programs and CBD. The project stakeholders are EMPNG and OSL as the investors/developers. The other stakeholders are the beneficiaries of the PNG LNG project who are the Lancos, and in this case its Boera Holdings Limited and Laba Holdings Limited, and the Department of Petroleum representing the national government of PNG.

Based on the conceptual framework, it is essential to establish the relationship between the independent variables and the dependent variables. It is crucial to establish

the influence PPP had on CBD and social entrepreneurship, and the influence CBD had on social entrepreneurship.

The statistical analysis used to establish the relationship between the independent variables and the dependent variables in this research is Kendall's tau (non-parametric) and Mann-Whitney U test.

The analysis in terms of the correlation between the independent and dependent variables using Kendall's tau (non-parametric) displays a strong correlation between the independent variables and dependent variables. The Mann-Whitney U test results show that subjects observations about the independent variables and dependent variables differ. The difference in observation is observed due to the methodologies used by the investors/developers to implement their community projects.

*The research was conducted based on three questions:*

1. Is public-private partnership contributing towards CBD?
2. Does CBD contribute towards the creation of social entrepreneurship?
3. Do public-private partnership programs have a positive impact and effect on social entrepreneurship?

## **7.2 Impact of PPP on CBD**

From the outset, PPP and CBD show a high correlation regarding their relationship. According to Derrick Brinkerhoff and Jennifer Brinkerhoff (2011), PPP programs designed for the delivery of goods and services should focus on CBD for

sustainability over an extended period.

The objective of the EMPNG's CDSMPP is to strengthen communities to benefit from the project, reduce the risk of adverse social impacts on communities, improved livelihood of indigenous people through fostering respect for their dignity, human rights, aspirations, culture, and natural resources. The EMPNG's CDSMPP, is about building capacities in communities impacted by the project and the rest of PNG's population at a more broader scale. The OSL social responsibility policy is similar to EMPNG's CDSMPP.

**Key Findings from the empirical study:**

1. For PPP to prosper and have a positive influence on CBD, it is imperative that there must be an enabling environment. The enabling environment creation is through ensuring that there must be a policy framework, legal and regulatory framework, financial support, and institutional arrangements in place. The enabling environment is pivotal in putting together a successful PPP program as supported through the research findings. The argument on enabling environment as the key pillar for a positive relationship between PPP and CBD is supported by the findings and arguments as put forward by HK Yong (2010). He argued that any PPP development depends on six phases; enabling environment, project definition, project feasibility, project structuring, transaction, and post-implementation.

2. The PPP will have a positive impact on CBD by enhancing the environmental



aspect. In terms of environment, the PPP programs must strengthen systems and frameworks through design, development, and implementation of strategies and policies far beyond organization and individuals. At the organizational level, the PPP programs must build an effective organizational structure, and that includes, management, physical resources, human resources, intellectual resources, strategic planning and incentives, and rewards system. The individual component is the fundamental element in capacity building. The individual component is essential because, for Lancos and communities along the PNG LNG pipeline to realize its socio-economic potential, the individual skills sets must be enhanced. The individual components consist of values, attitudes, health, awareness, and skills.

The arguments, as provided for PPP, is in line with previous research conducted by Maria Rola-Rubzen and John Burgess (2016). They state that the result of a change is that it enables organizations and individuals and social systems in communities towards improving their competencies and capabilities that will allow them to undertake functions and, assist them to manage the development process over a period of time effectively.

### **7.3 Impact and effect of CBD on social entrepreneurship.**

The second focus of the survey was to see the impact and effect of CBD on social entrepreneurship in communities and Lancos impacted by the PNG LNG project. The assessment of CBD is to see if there are improvement and enhancement of social

entrepreneurship in the impacted communities and Lancos. For CBD to be effective, the environment, organization, and individual systems and processes must be competent in operation. The effect CBD will have on social entrepreneurship if its system and processes are in place is that; it will create social value among communities, and the communities will take the opportunity in taking the risk to improve their socio-economic environment which will result in livelihood improvement. The results from the analysis based on the correlation of the subjects are that CBD have significant influence on social entrepreneurship.

**Key findings from the empirical study:**

1. In order for CBD to create and foster social entrepreneurship in communities, it is essential that the environment is conducive for social entrepreneurship to prosper and evolve. That is, there must be a policy framework that will influence and regulate the environment for social entrepreneurship to function effectively. The organization structure is design in a way that it can accommodate social entrepreneurship to be part of its mission and objective. The development and enhancement of individual skills sets are essential for social entrepreneurship, and this is the core element of CBD and social entrepreneurship.

2. Social entrepreneurship is about creating social value in communities that are championed by social entrepreneurs' through social enterprises. To do that they need to take the opportunity when the risk is presented to be creative, innovative, and inventive

in their respective communities. The creation of social entrepreneurship is possible if there is a conducive environment, organizations are well structured, and individuals have the skills set to deliver on the mission and objective of the organization. From Kendall's tau (non-parametric) analysis it shows a reliable correlation between CBD and social entrepreneurship.

The argument is supported by Mary Kauza (2002), who argued that the CBD framework must be holistic and cover other areas beyond just its traditional activities such as workshops and training. She further iterated that the CBD approach must be holistic and encompasses; individuals, institutions, team, and essential policy environment.

#### **7.4 Impact and effect of PPP on Social Entrepreneurship.**

The third aim of the survey was to analyze the impact and effect of PPP on social entrepreneurship. The purpose of the third sets of questionnaires from the survey is to see how the PPP impacts directly on social entrepreneurship. From the perspective of the investors/developers of the PNG LNG project, this is part of their corporate social responsibility. The outcome of the findings from the analysis is that PPP does significantly impact on social entrepreneurship given a conducive enabling environment.

#### **Key findings from the empirical study:**

1. The design and creation of PPP programs are to create social value and improve socio-economic activities in communities which improves the livelihood of people. From

the research, it is essential because, through the partnership, such resources as finance, institutional support, and human resource utilization will promote and create awareness on the benefits of social entrepreneurship. The awareness created through the PPP programs and CBD activities will encourage Lancos to utilize social entrepreneurship in its business activities, thus moving from profit-seeking to social and value creation in communities.

2. Successful social entrepreneurship initiatives depend on the impact of leverage on political, economic, and cultural evolution. The most challenging component is the cultural component. The cultural component has to do with the peoples' way of life and their cultural practices that have evolved over time. From the research PPP can address that, and it goes a long way in ensuring that resources are directed towards a positive outcome in terms of change while still maintaining their cultural practices. The social policy of OSL on social responsibility and EMPNG CDSMPP captured the essence on how to sustain a community's way of life and its culture to improve livelihoods.

According to Anne Hamby, Megan Pierce, and David Brinberg (2017), in which they elaborated that in terms of values captured, income generation is critical for any social venture because it has to be self-sustainable. To pursue social activities, money is crucial, it should be directed towards value creation in communities for sustainable socio-economic outcomes.

## **CHAPTER 8: CONCLUSION**

Social entrepreneurship is a new phenomenon, and this so valid for the case of PNG. The literature on social entrepreneurship in PNG is limited, and the concept has to find traction within the Lancos and communities. It is essential that the PPP programs based on the MoA signed between the government and the investors/developers have a component embedded within the MoA, committed to promoting CBD among interested groups in communities. The essence of MoA promoting CBD through the PPP programs is for the Lancos and communities to have a mindset of social entrepreneurs in order to promote the concept of social entrepreneurship in PNG. For livelihoods to be improved, building capacities within communities and Lancos is essential. Social entrepreneurship is essential for communities to create social values which can assist in reducing the risk of adverse social impacts on communities, respect for the dignity of indigenous people, aspirations, and preservation of culture and natural resources.

### **8.1 Implication**

What does it mean for policymakers aiming to address complex social issues through the development of social responsibility policy and community development plans? Innovation is a predicament for problems where new thinking is critical to achieving practical outcomes. Equally critical is the factor of risk that is associated with social entrepreneurship and hence a tolerance for failure. When there is a positive

approach in social entrepreneurship, it usually leads to an effective outcome, and innovation is a precursor to imitation, such that social enterprise and in this case Lancos can learn from and adopt these approaches.

## **8.2 Recommendations**

It is essential for research into why Lancos are not adopting social entrepreneurship concept as a business model to be undertaken so PPP programs and CBD initiatives through various social plans can be reviewed and revised.

Based on the research, the Medium-Term Development III plan, when reviewed, should look at social entrepreneurship concept as a business model for small-medium enterprises that is centered around inclusive community participation. The Land Group Incorporation Act of 1974 should be amended to integrated social entrepreneurship as a business model for any Lancos that is incorporated in the future.

## **8.3 Limitation of the research**

The empirical analysis conducted only covers two companies, two Lancos, and one government department as the regulator of oil and gas in PNG. The sample size is also small, with only 39 participants. Due to time constraints, the field activities took place in one location, and that is Port Moresby, the capital city of PNG.

#### **8.4 Future research**

There is a need for more research into social entrepreneurship in PNG by taking stock, assessing past research, and current practice to provide an opportunity to construct research agendas for the future. Future research should explore a strategy for Lancos as social enterprise organization to consider opportunities for financial sustainability to address long-term, sustainable social change.

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## **APPENDIX**

### Research Questionnaires

The purpose of this research is to establish if the partnership between the Papua New Guinea (PNG) liquified natural gas (LNG) Developers, the government and Landowning companies (along the PNG LNG pipeline) is creating social value in the communities impacted by the PNG LNG project. Landowning companies (LOC) business activities through the partnership is the area of focus. Is there community participation in the LOC business activities? Is the LOC business activities creating social value in the communities of interest? How are the PNG LNG Developers building capacities in the LOC to improve community structure and participation so as to see rural livelihood improvement? These are some of the questions this research tries to look at and analyse and to create more constructive discussion on Social Enterprise in Papua New Guinea by promoting it through the LOC.

There are 10 statement for each factor (public-private partnership, capacity building and development and Social entrepreneurship) and one open question for each factor. Respondents need to choose between 1-7 based on the degree of their agreement on the statement. For the open questions it is anticipated that the respondents will elaborate on those questions based on their understanding, observation and experience in regard to the subject matter in the three questions.

### Definition of some key terms:

#### Public-Private Partnership

In the context of this research the definition will be based on Stephen H. Linder (1999) in which he defines public-private partnership as power sharing and looked at it through 3 ambits. First, ethos of cooperation and trust endemic to command-and-control regulation. Second, any relationship between partners that will involve some mutual beneficial sharing of responsibility, knowledge, or risk. In most instances, each party brings something of value to the others to be invested or exchanged. Third, there is an expectation of give and take between the partners, negotiating differences that were otherwise litigated.

#### Capacity Building

Capacity building implies activities which strengthen the knowledge, abilities, skills and behaviours of individuals and improve institutional structures and process such that the organisation can efficiently meet its mission and goals in a sustainable way.

#### Capacity Development

Capacity development is advanced through a comprehensive and holistic working

approach that is driven through the partnership to be effective and relevant. The definition of CBD is derived from Chakunda Vincent and Chakaipa Stephen (2015).

Social Enterprise

According to Elizabeth Chell (2007) Social Enterprises are entities that behave entrepreneurially and is engaged in a process that creates value. That value serves two purposes; it positions an enterprise among competitive enterprises, and it generates wealth that is to be distributed (according to a formula/agreement) among its stakeholders. The process is embedded with in a socio-economic context which if the mission of value creation is to be maintained, suggests that the enterprise that promotes the activity and its outcomes must be sustainable.

Social Entrepreneurship

Social entrepreneurship is the capability to connect with social and community values, and through adept networking to realize the social enterprise potential

(Elizabeth Chell: 2007, pp.14).

1. Name of your Company/government Department:

2. Private/Public:

Private	Public
1	2

3. Position:

Executive Level	Manager or above	Supervisor or Below
1	2	3

4. Years in Service:

Years in Service for the Organisation	5 or less	6-10	11-20	21-30	31 or more	
	1	2	3	4	5	

5. Age:

Age	20 or younger	21-30	31-40	41-50	51 or elder	
	1	2	3	4	5	

6. Gender

Gender	Male	Female
	1	2

7. Education

Level of Education	University (PhD, Masters, Degree)	College or Equivalent (Associate Degree or Below)	Secondary and Lower (Certificate or equivalent)
	1	2	3

Questionnaires on Public-Private Partnerships

1.1	The government has defined long-term vision and strategy for PPP through PPP legislation. (Policy	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

	Formulation)							
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1.2	Land Acquisition Legislation provided for speed and ease of acquisition while ensuring appropriate compensation and/or rehabilitation in regard to customary land being utilised for commercial activities. (Policy Formulation)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

1.3	The procurement process among Landowning companies, Exxon Mobil and responsible government agencies	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

	is transparent and competitive. (Policy Formation)							
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1.4	The projects between Exxon Mobil and Landowning companies delivered critical public infrastructure services. (Legal and Regulatory Framework)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

1.5	Where the project requires government support, the proposal includes an assessment of the economic feasibility, the various	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

	options or instruments to support with a clear rationale for the recommended options. (Legal and Regulatory Framework)							
--	--	--	--	--	--	--	--	--

1.6	The projects undertaken by Exxon Mobil and Landowning companies pursues a PPP path properly in consultation with relevant government agencies. (Legal and Regulatory Framework)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7



1.7	The projects between Exxon Mobil and Landowning companies are bankable so as to allow Landowning companies to access financial support from commercial banks. (Financial Support)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

1.8	The LOC has taken advantage of the partnership by diversifying its investment portfolio. (Financial Support)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

1.9	The project size is reasonable	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor	Somewhat Disagree	Disagree	Strongly Disagree
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	from the view of a PPP project and will attract investment from commercial firms in the future (Institutional Arrangements).				Disagree			
		1	2	3	4	5	6	7

1.10	Landowning companies and the government have human resource capacity to manage existing projects in the absence of Exxon Mobil. (Institutional Arrangements)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

Qualitative Questionnaire:

In your opinion, are there PPP legislation, rules or regulations that provide clarity on the definition of PPP, that lay out a process for approval, procurement and regulation of projects through construction and approval stages and that specify which public authorities can sign the PPP agreements? Please elaborate.

### Questionnaires on Capacity Building and Development

2.1	You have been involved in community organisations in your project for more than 3 years. (Environment)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

2.2	There are some representatives (such as different sexes, ages, ethnicities, and sectors) of target population members in your project. (Environment)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

2.3	There are some links with pre-existing community structures such as church groups, youth groups, and self-help group. (Environment)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

2.4	Your	Strongly	Agree	Somewhat	Neither	Somewhat	Disagree	Strongly
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	organisation has created new community structures that help community members in church groups, youth groups, and self-help group. (Environment)	Agree		Agree	Agree nor Disagree	Disagree		Disagree
		1	2	3	4	5	6	7

2.5	There are barriers such as training, skills, transportations, childcare, languages, locations and meeting times to participate in the project. (Organisations)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

2.6	You are using different methods such as meetings, e-mails, newsletters or other media to inform people about the project. (Organisations)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

2.7	There are some reporting guidelines to ensure that project leaders are accountable to the project team and the target population. (Organisation)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

2.8	There are activities in terms of training, skills, transportations etc. and you are aggressively pursuing to increase participation. (Individual)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

2.9	There are some key roles and responsibilities of project or community leaders involved in the project. (Individual)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

2.10	You have encouraged and supported informal leaders (someone who does not have authority in the community but who is influential : e.g.: retired senior government officer in the community etc.) to involve and monitor the community project. (Individual)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

Qualitative Questionnaire:

Have you identified areas for improvement in community structures that your project could work on? Examples are project management and policy development. Please elaborate.

Questionnaires on Social Entrepreneurships

3.1	The Exxon Mobil partnership between the government and Landowning companies has identified and addressed social problems within the community of interest. (Taking Advantage of Opportunities)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

3.2	Exxon Mobil through its partnership with LOC have identified Environmental problems and is working towards addressing those Environmen	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

	tal Challenges (Taking advantage of Opportunities)							
--	--	--	--	--	--	--	--	--

3.3	The current business model is adopted for Landowning companies as the best model. (Taking Risk)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

3.4	The business model is designed to enhance community capacity building and sustainability in a long run. (Taking Risk)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

3.5	There is an economic model	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor	Somewhat Disagree	Disagree	Strongly Disagree
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	devised and utilised by Exxon Mobil and Landowning companies in terms of cooperative decision processes, resource application, environmental and geographical management etc. (Innovation and Invention)				Disagree			ee
		1	2	3	4	5	6	7

3.6	There is a strategy that Exxon Mobil is following to accelerate the business model with the partnership by collaborating with other stakeholde	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

	rs in the society. (Innovation and Invention)							
--	--	--	--	--	--	--	--	--

3.7	There is a mechanism in place to measure social impact through your partnership with Landowning companies. (Innovation and Invention)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

3.8	Partnerships by the government and Landowning companies provide added value to improve rural population livelihoods. (Social	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

	Value Creation)							
--	-----------------	--	--	--	--	--	--	--

3.9	The current Public-Private Partnership act 2014 is contributing towards the enhancement of social entrepreneurship (social entrepreneurship is to do with social mission which is driven by creating social value in society). (Social Value Creation)	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

3.10	Landowning companies are Social Enterprises that do business to generate profits and invest in the community to improve	Strongly Agree	Agree	Somewhat Agree	Neither Agree nor Disagree	Somewhat Disagree	Disagree	Strongly Disagree
		1	2	3	4	5	6	7

	community). (Social Value Creation)							
--	--	--	--	--	--	--	--	--

Qualitative Questionnaire:

If you think that Public-Private Partnership act 2014 improved communities in terms of legal and regulatory framework to upscale the current business model nationwide, or if you don't think so, please do elaborate your opinion.

Employment created by the PNG LNG Developers and Lancos

EMPLOYMENT	DIRECT	INDIRECT
Mine employment	10,000	
Contract Lanco employment		15,000
Non-contract Lanco employment		4,000+
Mine generated employment in other PNG companies		15,000
Oil/gas company employment	4,000	
Contract Lanco employment		5,800+
Oil/gas generated employment in other PNG companies		6,000
Totals	14,000	45,800
<b>TOTAL</b>	<b>59,800</b>	

Table 15.

Mann-Whitney U test Summary of all variables being tested

	Groups	Rank						Rank						Rank					
		PPP 1	PPP 2	PPP 3	PPP 4	PPP 5	PPP 6	CBD 1	CBD 2	CBD 3	CBD 4	CBD 5	CBD 6	SE 1	SE 2	SE 3	SE 4	SE 5	SE 6
	<b>EMPNG</b>	13.1	15.33	14.23	12.23	13.3	12.6	11.43	11.57	12.00	12.47	12.57	12.57	10.63	10.87	11.30	11.67	11.53	11.50
<i>Mann-Whitney U for EMPNG and OSL</i>	<b>U</b>	76.500	70.000	86.500	63.500	79.500	69.000	51.500	53.500	60.000	67.000	68.500	68.500	39.500	43.000	49.500	55.000	53.000	52.500
	<b>p-value</b>	0.485	0.302	0.859	0.169	0.538	0.268	0.41	0.51	0.113	0.211	0.258	0.258	0.009	0.016	0.037	0.70	0.56	0.50
	<b>r</b>	-0.13	-0.06	-0.03	-0.30	-0.12	-0.21	-0.39	-0.39	-0.30	-0.24	-0.22	-0.22	-0.50	-0.46	-0.40	-0.35	-0.37	-0.38
	<b>OSL</b>	15.13	12.33	13.71	16.21	14.88	15.75	17.21	17.04	16.50	15.92	15.79	15.79	18.21	17.92	17.38	16.92	17.08	17.13
	<b>Developers</b>	18.42	16.48	26.40	19.54	21.21	19.98	17.67	17.63	16.98	17.83	17.44	17.44	16.63	16.85	16.63	16.31	16.21	16.13
<i>Mann-Whitney U for EMPNG and OSL</i>	<b>U</b>	122.000	95.500	93.500	95.000	55.000	84.500	124.000	123.000	107.500	128.000	118.500	118.500	99.000	104.500	99.000	91.500	89.000	87.000
	<b>p-value</b>	0.704	0.178	0.159	0.148	0.002	0.50	0.74	0.71	0.32	0.87	0.59	0.59	0.21	0.29	0.21	0.12	0.10	0.83
	<b>r</b>	-0.06	-0.26	-0.24	-0.25	-0.61	-0.33	-0.06	-0.06	-0.17	-0.03	-0.09	-0.09	-0.21	-0.18	-0.21	-0.27	-0.28	-0.29
	<b>Beneficiaries</b>	17.09	21.32	21.5	14.64	11.00	13.68	18.73	18.82	20.23	18.36	19.23	19.23	21.00	20.50	21.00	21.68	21.91	22.09

Table 16.