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The evolution of Benefit Sharing Agreements in Papua New Guinea: What are the lessons learnt and what are the prospects for the future?

A research presented in partial fulfillment of the requirements

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Abstract

With an abundance of natural resources, the extractive and fishery exploitation at a developed stage, Papua New Guinea (PNG) should have been at the top end of the developing world, however, this has not materialised. PNG is going through the dilemmas of development through high rate of resource exploitation and unequal distribution of benefits that is having detrimental effect on the economy and general living standard. Many have questioned why this situation has existed without being addressed.

It is also acknowledged here that there has been much literature that has been written on the environment and social impacts of resource project, however, there has been little written on the benefits flowing through to those people affected by resource developments. This report attempts to address those benefit sharing issues.

A review of past and current projects and how they distributed benefits has provided a baseline from which the most important elements for future benefit sharing have been identified. These are that BSA are negotiated, legally binding agreements that recognise property rights, are internationally recognised, they allocate and demarcate responsibilities and ensure development coherence. Using these characteristics, a fair and equitable benefit sharing could then be developed for resource projects in Papua New Guinea.

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Abbreviations

ABS	Access Benefit Sharing
ADB	Asian Development Bank
AfDB	African Development Bank
BCA	Bougainville Copper Agreement
BCL	Bougainville Copper Limited
BDG	Business Development Grants
BHP	Broken Hill Propriety Limited
BSA	Benefit Sharing Agreement
CBD	Convention on Biological Diversity
CMCA	Community Mine Continuation Agreement
DFWN	Distant Water Fishing Nations
DPMNEC	Department of the Prime Minister and the National Executive Council
EEZ	Exclusive Economic Zone
EPG	Enga Provincial Government
FFA	Forum Fisheries Agency
FIFO	Fly In Fly Out
IBP	Integrated Benefit Package
IFC	International Finance Corporation
ILG	Incorporated Land Group
LNG	Liquefied Natural Gas
LRC	Law Reform Committee
MCA	Mine Continuation Agreement
MCC	Mettalurgical Group Corporation
MCCJV	Mettalurgical Group Corporation Joint Venture
MDC	Mining Development Contract
MOA	Memorandum of Agreement
MRA	Mineral Resources Authority
NCI	National Cancer Institute
NFA	National Fisheries Authority
NZ\$	New Zealand Dollar
OTML	Ok Tedi Mining Limited
PDF	Project Development Fund

PDL	Petroleum Development License
PGK	Papua New Guinea Kina
PJV	Porgera Joint Venture
PNG	Papua New Guinea
PNGDSP	Papua New Guinea Development Strategy
RMTL	Road Mining Tailings Lease
SML	Special Mining Lease
SSG	Special Support Grant
TAs	Technical Assistance
UNCLOS	United Nations Convention on Law of the Sea
UBSA	Umbrella Benefit Sharing Agreement
US	United States
WB	World Bank

Chapter 1 – INTRODUCTION

1.1 Introduction and overview

Right now we have the ridiculous case where the state owns the minerals and oil or gas but, upon granting of a development licence, it seems to forfeit that right of ownership completely and acts like another equity partner begging for a right to participate. All debate today really has nothing to do with the philosophical aspects of ownership. It has everything to do with equitable distribution of proceeds of development and that can be looked at under the present regime...confusion and uncertainty (The Editor, 2012).¹

The above National Newspaper editorial comment was made in response to a presentation by Papua New Guinea's Prime Minister, Peter O'Neil at the 2012 Sydney Mining Conference where he promised a wide-ranging review into the current mining and petroleum fiscal regimes. The Prime Minister's proposed review came at a time when there is much dissatisfaction among landowners who want a better financial deal and other terms and conditions associated with resource extraction projects dominated predominantly by foreign companies. In this context, this research report will supplement this endeavour by looking specifically at Benefit Sharing Agreements (BSAs) and their implications to complement this wide ranging review. This chapter begins by providing a brief highlight of PNG's country profile supplemented with a map of its resource project locations, followed by the rationale and background to the study. It then provides the research objectives and questions that guide this report, including the methodology adopted. The chapter concludes by outlining the report's structure.

¹ The National Newspaper (27 December, 2012) is one of the daily newspapers based in Port Moresby, Papua New Guinea.

1.2 Context of Report – Papua New Guinea

Papua New Guinea (PNG) comprises a mountainous mainland and 600 offshore islands totalling an area of 470,000 square kilometres (UNESCO, 2009, p. 7). The 2010 National Census figures show that PNG has a population of 7.06 million² people. There are 867 different languages spoken along with a thousand indigenous ethnic groups who have been thrust together as a nation. English is the official language while Melanesian Pidgin and Motu are national languages (Dorney, 2001, p. 18). PNG gained political independence from Australia in 1975, and has a democratic system of government and a national constitution that calls for the collective sharing of the benefits derived from the abundant natural resources (oil, gas, fisheries, forestry and mineral deposit) in existence in PNG. The constitution is enacted by the five goals and directing principles that call for the equitable sharing of benefits, particularly Goal 2 and Goal 4 outlined below.

Goal 2 -we declare our second goal to be for all citizens to have equal opportunity to participate in, and benefit from, the development of our country.

Goal 4-we declare our fourth goal to be for all Papua New Guinea's natural resources and environment to be conserved and used for the collective benefit of us all, and be replenished for our benefit and future generations.

According to Kwa et al.(2006, p. 60), Goal 4 refers to sustainable use and development of the natural resources and must be read together with the second goal which calls for equal opportunity to participate in, and benefit from, equitable distribution of incomes and other benefits of development from the extraction of these resources among individuals and groups. These two goals were enshrined as a basis for the development of other laws particularly in mining, petroleum, and fisheries as discussed in this study. The intention of

²Mike Bourke (2012) PNG's population prediction compared with preliminary 2011 census data.Outrigger:blog of the Pacific Institute. Retrieved 24/01/2012

<http://asiapacific.anu.edu.au/blogs/pacificinstitute/2012/07/03/pngs-population>

1.1. The Issues and Rationale for the Study

Papua New Guinea's abundant natural resources and a stable political environment make it attractive for foreign investment. One case is the huge Exxon Mobil led multibillion dollar Liquefied Natural Gas (LNG) project, which is currently in the construction stage. It is forecast that the economy of Papua New Guinea will be significantly impacted through the developments related to the production and sale of LNG, a commodity which is currently in high demand from domestic and overseas markets. This development project presents an ideal opportunity to contribute significantly to PNG's economy (Joint Working Group, 2010). However, experience from past commodity booms, particularly in the mining and petroleum sectors, indicates that the country has not successfully translated revenue streams from these sectors to tangible improvements in the socio-economic wellbeing of the people as expected of a resource-rich nation. As described by Kuwimb (2010, p. 1), PNG is 'a mountain of gold floating on a sea of oil'.

While the development of natural gas resource creates opportunities, at the same time it also presents immense challenges and risks for PNG. Similarly the PNG LNG project presents significant economic opportunities, however when taking into account the sometimes unfortunate history of past commodity booms, it is important to have in place a robust fiscal and legal framework and systems to support the management of windfall revenues. It is also paramount that the needs of affected communities be taken into account in the planning and development of any similar development projects.

This research report also complements past and existing literature on natural resource exploitation and its immediate impact on society, the economy and the environment. These impacts begin as early as exploration and extend to infrastructure and all other aspects along the value chain of the resource extraction projects. The most significant aspects are, from the local perspective, include the loss of land, assets and livelihood, influx of outsiders, rising costs of goods and transport and the potential for similar developments to create divisions between the haves and the have-nots. These issues are highly complex, involving groups with different behaviours and power dynamics especially when development is on land owned by indigenous communities. While the social risks involve negative influences

associated with resource exploitation, there are also accompanying opportunities for community economic development achieved through fair and equitable distribution of benefits. It is therefore argued that extending the broad concept of BSAs should be formalised and used in PNG provided they conform to existing domestic regimes and are consistent with international standards.

The term and the concept of BSA became popular in PNG in 2009 and were adopted to complement the development and commercialisation of natural gas. Although BSAs have existed previously and have been used in the exploitation of natural resources they operated in a different form and possessed few basic characteristics apart from those outlined below.

Prior to 2009 and in the early years of mining and resource exploitation, compensation payments appeared to be the norm and a prevailing dynamic concept that was loosely aligned and attached to existing legislation and became the most widely known form of benefit sharing. Coupled with concerns of sustainability, environmental and other social issues, compensation became an issue of much debate and discussion among researchers, academics and government and in turn led to the production of various publications on the issue (Banks, 1999a; Filer, 1998; Filer, Henton, & Jackson, 2000; Golub, 2006). Compensation in this context was considered as a one- off payment to appease those aggrieved over a loss and was a short-term solution for changed land use, damage, restrictions, loss of improvement, loss of earnings, loss of production and social disruption (Filer & Imbun, 2009, p. 55). On the other hand, BSAs are legally binding. They are established through negotiation between multiple stakeholders, comprising the developer, the government, and the landowners. Furthermore, BSAs are internationally recognised and are aligned and consistent with the policies of major institutions such as the World Bank (Bachurova, 2012). BSAs aim to deliver positive, tangible and equitable benefits to affected communities over the life of the project and beyond its closure through development coherence and is characterised by the demarcation of responsibilities and recognition of property rights. While it is acknowledged that work on certain aspects of benefit sharing has already been carried out and implemented at various intervals linking individual projects on a needs basis such as the Integrated Benefit Package (IBP), there has been little analysis

on the evolution of benefit sharing undertaken to determine its usefulness and whether it has been effective in Papua New Guinea.

While there can be drawbacks attached to BSAs, there are also, potentially substantial benefits. As pointed out by O’Faircheallaigh (2009), BSAs allowed people to share in the wealth generated by resource extraction and provide them the opportunity to have a say in decisions that may affect them environmentally and socially. On the contrary, BSAs can create inequalities in instances where only a few are given the opportunity to maximise their benefits. It can also affect people’s relationships with the state whereby locals can use the agreement as a weapon for judicial redress, delay project implementation and create avenues for politicians to gain political status and recognition. PNG is culturally diverse and to design a robust system suited to the country social, economic and political contexts can be quite daunting (Kwa, et al., 2006). Therefore, care should be taken to identify and learn from the experiences of other countries, which have adopted BSAs. In addition, it is crucial to draw from relevant literature on benefit sharing such as the concept of IBP applied at the Lihir Gold project, which provided benefit streams to establish one that was appropriate for PNG.

The reflections presented in this research report are based on, and will draw from, the literature on BSAs; relevant information, and government documents particularly policies and legislation pertaining to their establishment in PNG. In addition, it focuses on similar international experiences that have empowered disenfranchised groups whose land has been used to extract resources thus giving them the opportunity to participate and have greater control over their lives and well-being through the benefits that flow from these development projects.

1.2. Research Aims and Objectives

The Papua New Guinea minerals, oil and gas industries, has presented a number of ‘development challenges for stakeholders, and has been the subject of local, national and international concerns and conflict’ (Banks, 2001, p. 9). These concerns are usually specific to each operation, because of the nature of the operations. In most cases, operations are

conducted in isolated areas with little or no government presence, and on land that is communally owned. This gives landowners significant negotiating powers and in this context, the Multinational Corporations, as developers of these resources, including the governments must often take a risk management approach to sharing the benefits at the local level and seek to establish an instrument that is dedicated to that purpose.

The overall aim of this study is to trace the development of BSAs in the natural resources sector over a period of time particularly in the mineral, oil, gas, and petroleum and fisheries sectors. It will examine how these agreements have been used by governments and multinational corporations to mitigate impacts and deliver benefits to local communities. There is a host of questions that underlie this study, but the two most important questions are:

- (i) *What are the lessons learnt from previous Benefit Sharing Agreements; and*
- (ii) *What are the future development prospects for benefit sharing?*

The research will answer the above questions by exploring the following key objectives, which are:

- To define the concept of BSA in the context of international comparisons,
- To discuss the rationale behind the BSAs; the processes involved in their development and the key features of BSAs, in PNG and internationally,
- To investigate the use of BSAs in PNG and evaluate the extent to which they are able to effectively distribute benefits to the community, and
- To provide recommendations for improving the development and use of BSAs in PNG.

Internationally, BSAs have been applied in the areas of biodiversity, extractive industries, water and fisheries, and although the concept is similar across the sectors, it differs in where and how it is applied (Laird & Wynberg, 2008). BSAs applied in biodiversity differ from those applied in the extractive and fisheries industries. A BSA applied in Chad for example may not be that same as that applied in PNG. In Chad, it needs to be noted that only a small share is allocated to the communities affected by petroleum activities because the resource is considered primarily a national asset rather than local property (Fischer,

2007). In contrast, in PNG, there is emphasis placed on local ownership as 97 per cent of the land area is under customary (collective) tenure where the question of landownership rights and mineral access arises (Filer, 2011). These issues give rise to a diverse set of strategies for sharing the benefits (Fischer, 2007). Application in biodiversity and fisheries differs and concentrates on access and property rights and the emphasis is primarily on conservation.

Benefit Sharing Agreements have gained popularity in PNG as a result of the recent ExxonMobil led PNG LNG project, despite the principles and application of benefit sharing agreements having existed for over 25 years in other forms in the mining, fisheries, and forestry sectors of PNG. Previous policies and legislation may not have accommodated BSA (Kwa, et al., 2006), however, this is changing due to the commercialisation and development of natural gas. This research will explore the legislation, policy and legal regimes such as the specific resource laws that provided the basis for the development of BSAs.

The dominant development discourse over the past decades places the primary emphasis on international trade and the private sector as the engines of growth and they are considered the best tools for national development. Many in the developing world have jumped on the bandwagon and in doing so, created many economic, social and environmental challenges such as resource curse, Dutch disease, sustainability issues, environmental issues, and the social impacts on the local population. Another key development debate specific to the extractive and fisheries industries is corruption. In the extractive industries myriad forms of corruption have occurred, such as those identified by Standing (2007), hence one may pose the question - Are BSAs framed to address these questions of corruption ?

BSAs have been applied successfully in the mining sectors in developed countries such as Australia and Canada, which have recognised the rights of traditional indigenous societies who own land. In Canada for example, Davison (2003) provides an account of how local communities view benefit agreements that address long and short-term benefits in relation to the adverse effects of large-scale mineral development. O’Faircheallaigh (2009) identified

similar accounts and referred to the participation of Aboriginal people in having a voice on how mines are developed and operated. Elsewhere in the developing world, similar experiences are noted in countries such as Nigeria, in which Tuodolo (2009) pointed out the success of BSAs in the gas industry while Fisher (2007) highlighted experiences regarding the use of BSAs in the diamond industry in Chad. In Uganda, BSAs have been developed to address fairness, equity, create incentives, provide resources and define the roles of stakeholders in terms of their rights, responsibilities, returns, and relationships (4 Rs) (Mwayafu & Kimbowa, 2011).

The related international experiences will be outlined in detail in the literature review and will provide the bulk of the information and experiences of BSAs that this research study will draw on to present the challenges in implementing a suitable, practical, and profitable BSA in PNG.

1.3. Methodology

The Papua New Guinea resource industry, in particular the minerals and fisheries sectors, have been the subject of intense interest and research covering a broad range of fields. Past literature on fisheries have concentrated on the conservation of fishery resources of the industry whilst the mineral sector concentration was on economic growth and development (Banks, 2001; Doulman & Terawasi, 1990). It would have been beneficial to provide a more in-depth study into all aspects of BSAs, however in terms of the limitations of this study a more general survey will be adopted to examine and address the research questions posed above and the guiding objectives.

The research method utilized is a desk-based literature review concentrating on the available primary and secondary data. The primary sources comprise official PNG Government documents such as development policy documents, publications, official government files, and other relevant government documents pertaining to the study topic. The secondary sources comprise relevant books, development related journals, articles, and conference papers. Importantly, the review will look at the existing BSA for the LNG project,

its source and materials. Finally, the contents of this report comprises hands-on information, general observations of development policies, administrative concepts gained through the author's own experience in dealing with government policy affecting the resources sector. The author also draws from the expertise of his supervisor who has immense knowledge and invaluable experience on the topics and issues associated with the sustainable exploitation of natural resources in Papua New Guinea.

1.4. Report Outline

The outline of this report is as follows:

Chapter 1 of this report provides a brief background to the report, its outline, aims, objectives and its methodology. The remainder of this report is structured around the four main objectives outlined in the previous section.

Chapter 2 provides definitions, historical applications, areas and applicability of BSA, including the main components of benefit sharing which includes compensation payments, royalty payments, development grants, and integrated development packages. It will also examine how, where and to whom these payments were distributed and how they have impacted on the social and economic well-being of the local communities involved. The chapter will then address the major concerns of the legal and institutional frameworks that are available and which in turn gave rise to BSAs.

Chapter 3 addresses individual BSAs and similar agreements in PNG including the geographical locations, ownership and operation, and discusses how benefit sharing is executed.

Chapter 4 identifies the existing gaps in knowledge and policy and highlights a number of positive lessons learnt, arguing that by drawing from these positive lessons, efforts can be concentrated on developing future benefit sharing agreements that are relevant and will bring real and sustainable benefits for all key stakeholders and the economy of PNG.

Chapter 2 – LITERATURE REVIEW

2.1. Introduction

This chapter is divided into 2 sections. The first section surveys BSAs, their origins, development, and applications. The section also covers the distribution mechanisms or arrangements that are in place for sharing the benefits from resource exploitation. It will discuss and examine the relevant policies, laws and relevant regulations that exist and ascertain the extent to which these laws and regulations are conducive for implementing the benefit sharing agreements. The second section is designed to understand BSAs and therefore, the discussions will revolve around the methodology of BSA that has been applied in PNG which in turn is supported by relevant international experience. Finally, by providing a general background and understanding of BSAs, their processes and application, laws and policies, a better appreciation will be gained in understanding the use and the concept of BSA in PNG.

2.1.1. The concept of Benefit Sharing Agreements in the context of PNG

Generally, in PNG, social relationships, identities and land hold significant importance. To access natural resources, outsiders will face opposition from customary landowners, not because of representation and decision making powers, but rather grounded in the power of resource use and control (Banks, 2008). Land in PNG is communally owned, and access to it precludes it from being viewed simply and exclusively as an economic factor of production that can be owned and traded. Therefore, access to extract natural resources from land that is communally owned can be quite difficult, cumbersome and prone to conflict if the above issues are simply ignored (Kwa, et al., 2006). As explained by Trebilcock (1979, p. 201) land in PNG has a factor of psychological attachment that transcends economic and legal arrangements. Agreeing to a proposition is a gesture to please, but deep inside, land remains substantially unchanged throughout one's life, independent of any transaction and exchanges which have taken place. Trebilcock points out that land is precious and therefore subject to primary enculturation, where cultural-linguistic group values are reinforced (Trebilcock, 1979). Land acquisition is further aggravated with inconsistencies in the

application of laws and regulations governing land. Therefore, a process to negotiate access takes precedence with the concerned stakeholders reaching an agreement through compensation (Filer, 1998). Customary land in PNG accounts for about 97 per cent while the remaining is State owned or is leased (Filer, 2011, p. 3). Therefore, it necessitates the involvement of landowners in any discussions on how resource projects should be developed.

Customary ownership of land in PNG holds a significant value and role and the establishment of Benefit Sharing Agreements and are considered appropriate. Firstly, it will eliminate for the developer the uncertainty and conflicts that exist in progressing projects involved in the construction and development of natural resources. Secondly, it seeks to ensure that affected communities enjoy the benefits derived from the extraction of natural resources (Browne & Robertson, 2010). Devinder (2004) however, refutes this and argues that benefit sharing agreements are a clever attempt by large multinational corporations to promote their corporate interests and therefore he claims that it is a dead concept. Donigi (2009) a prominent PNG lawyer, expresses similar views by stating that, benefit sharing amplifies greed through the creation of the term landowners which is a foreign concept and considers it an international notion developed to create classes of 'haves and have-nots' and increase marginalisation in PNG. Mako Kuwimb (2010, p. 402), denounces BSAs and argues that it is a form of suppression that prevents Papua New Guineans from owning majority shares, and promotes a culture of dependency or free hand-outs. BSAs can also be used as an institution which in turn becomes a legal tool and can be used by landowners to pursue their interests against the state (O'Faircheallaigh, 2009).

While the sentiments expressed in the preceding section are relevant, most of the arguments fall short of acknowledging and appreciating the value of BSA. For example, while Mako Kuwimb's argument holds in terms of the potential of BSAs to create divisions of rich and poor, it will not be an easy task for Papua New Guineans to own a majority equity share in resource projects, because the majority of PNG nationals propensity to save and cultural norms makes saving a very low priority, let alone for landowners. This scenario is however, slowly changing where landowners are increasingly taking more ownership by making good investment decisions such as the purchase of properties and increasing

business opportunities such as OTML which is one hundred percent (100%) PNG owned. In this context, BSAs can be a positive tool to pursue landowners' interests. According to Laird and Wynberg (2008) and other commentators on BSAs, the recognition of traditional ownership provides the impetus for the development of BSAs. This is consistent with the provision under international agreements and conventions, such as the United Nations Convention on the Law of the Sea (UNCLOS) and the Convention on Biological Diversity (CBD), 1992 (Laird & Wynberg, 2008). These conventions provide additional significance to the use of BSAs by offering guidelines and frameworks in determining a BSA, which is fair and equitable. These guidelines do not specify the benefits to be shared but offer a framework for assessing benefits on a case by-case basis suitable to the area of project activity (Smagadi, 2005). It is therefore necessary for national legislation to adopt and adapt specific guidelines to promote BSAs that are effective and context-specific in resource development.

2.1.2. The origins of Benefit Sharing Agreements

The origins of BSAs in the extractive industries, water use, and fisheries are scattered and specific reference could not be definitively identified. In the bio-diversity sector, there were references made to the National Cancer Institute (NCI) of the United State (US) initiating a BSA, but this could not also be justified as such, as it only related to Memorandum of Agreements (MOA) (Kate, Touche, & Collis, 1998; Simm, 2007). However in the mining industry in the 1900s, Albert Ellis³ signed an agreement with local chiefs on Ocean Island (now Nauru), giving his company the right to mine phosphate (Tyrer, 1963). The concept of Benefit Sharing has developed over the years with various competing threads emerging and taking many forms that defined property and ownership rights issues amounting to payments of compensation (Simm, 2007). Subsequently in 1919, the Nauru Agreement also made mention of benefit sharing agreements but details of these were not explicitly outlined. BSA was generally covered under the cost of administration of Nauru, Gilbert and Ellice (Kiribati and Tuvalu), from the proceeds of phosphate. This was in addition to mining rights and royalties paid to landowners and also trust funds for the benefit of the

³ Albert Ellis was a New Zealand citizen who discovered phosphate on Ocean Island.

populations of both islands (Tyrer, 1963, pp. 9-12). According to Sosa and Keenan (2001, p. 2), 'previous arrangement in relation to sharing benefits from the extraction of resources were vested in agreements that were traditionally signed between government and resource developers'. This is supported by (Kwa, et al., 2006), Filer (1990), Banks (1998), Claxton, (1998) and Dorney, (2000) who focused primarily on economic growth and development such as the setting of employment targets for local people. Recent agreement trends have been aimed at the recognition of indigenous people who own land that supports their lives, is a source of food, provides security and spiritual enrichment and where this has been taken away, BSAs are a means of appeasing the degradation of these activities.

Many commentators and researchers have debated and attempted to provide a universal definition of BSA without much success. Despite arguments against the concept of BSA by Kuwimb (2010), Donigi (2009), and Devinder (2004), commentators on benefit sharing such as Siebenmorgen (2009), Wall and Pelon (2011) O'Faircheallaigh (2009), Wynberg (2004) and Keeping (1998) and the growing body of literature support the view that BSA is a useful concept for ensuring the equitable sharing of benefits and is consistent with international agreements, policies and conventions. BSAs are aimed at compensating for losses as the result of resource extraction and is a concept that eliminates, if used accordingly, much of the uncertainty, such as landowner dissent and disagreement over benefit rewards, which exists in the development of natural resources.

2.1.3. The definition, application and use of Benefit Sharing Agreements

Given the multiple and increasing use of benefit sharing, it is necessary to define the concept. While this study will be concentrating on the extractive industries and fisheries, it is useful to highlight the definitions that are applied in other areas such as bio-diversity. Generally, definitions in the areas highlighted are similar. Prno, Bradshaw and Lapierre (2010, p. 3) define benefit sharing agreements as a supra-regulatory tool designed to address the impact from mine development and ensure that benefits are delivered, for example, to Canadian Aboriginal communities. O'Faircheallaigh (2011, p. 3) further defines

benefit sharing as a binding agreement between mining companies and Aboriginal communities giving the opportunity to share economic benefits generated by the resource extraction. A more representative definition, which is applicable in the PNG context is that provided by Browne and Robertson (2010, pp. 1-2) who describe benefit sharing as a written agreement arrived at as a result of a consultation process for a proposed resource extraction project that has the potential to impact the rights and interests of one or more groups of people. Over the years, benefit sharing agreement definitions in the extractive industry sectors were linked to terms like traditional landowners, as opposed to groups, villages, and communities which had wider implications for benefit sharing with no definitive meaning of BSA that is common and applicable across the resource sector.

According to Thornstrom (2007, p. 1461), in reference to the acquisition of genetic resources, BSA are described as a principle for the fair and equitable sharing of the benefits arising from the use of genetic resources, notably those destined for commercial use and commonly referred to as access and benefit sharing (ABS). ABS derives its guiding definition from the Convention on Biological Diversity (CBD), Article 15, which has been inspired by the world community's growing commitment to sustainable development championed through the United Nations. The fair and equitable sharing of the benefits arising out of the utilisation of genetic resources is one of the three most important and explicit guiding principles of Article 15 (Thornstrom, 2007). As pointed out by Laird and Wynberg, the nature and form of the benefit varies significantly by sector, and is understood differently giving rise to confusion and complications when there is the inclusion of 'equity' and 'fairness' which is also controversial therefore raising political and philosophical questions (Smagadi, 2005). Another reason for benefit sharing being understood differently by different industries arises from the complexities of the commercial chains and variations between sectors. For example, the quote below by Laird and Wynberg (2008, p. 31) highlights the point made:

Many in the seed industry interpret benefit sharing to be the moment at which seeds are sold to the farmer, rather than final products to consumers. The pharmaceutical industry by contrast sells its product directly to consumers whereas the fermentation industry may

use an organism that has no relationships to the final product and will thus require different strategy for benefit sharing.

While the above quote explains the diverse nature of the application of benefit sharing and the different industries that are represented it also gave rise to further discussion on the definitions of benefit sharing.

While benefit sharing in bio-diversity is not the focus of this study, it has given rise to some common issues around the many definitions and concepts that are used to define benefit sharing in other sectors. Sadoff and Grey (2002) for example, well-known commentators in the water use sector, point out that water use can also accumulate benefit sharing particularly when there is a 'trans boundary' factor and use within states. For example, the river Nile runs across many countries and benefit sharing between these countries is therefore of paramount importance. Sadoff and Grey define benefit sharing as the process where 'riparian's or river landowners cooperate in optimising and equitably dividing the goods, products and services connected directly or indirectly to the watercourse, or arising from the use of its waters.

Conversely, fisheries resources are considered as 'stock' rather than 'flow' in Natural Resource Economics (Perman, Ma, Common, Maddison, & McGilvray, 2011). Therefore its definition of benefit sharing is connected to conservation, management, and sustainable use of the stock, guided and regulated under the United Nations Convention on the Law of the Sea (UNCLOS) (Witbooi, 2008). Furthermore, fisheries are a common access resource and are also highly migratory. Therefore having to define benefit sharing is linked to having access to these common resources through licensing and access agreements so that the wider community benefits from the harvesting of fishery resources (Kuuluvainen & Tahvonen, 1995).

2.1.4. Components of Benefit Sharing Agreements

This section of the report looks at the distributional mechanisms or arrangements in place to implement BSAs. The arrangements are typically defined by law, specifically through

development contracts between the developer and the state or by other legal arrangements recognised by the state. The instruments covered by a BSA can include royalty payments, compensation payments, business development grants or seed capital, infrastructure grants, and tax credit schemes as described by Hancock (2002) in his presentation to Mining and People workshop in Cairns, Australia. These instruments are covered in the next chapter. It is appropriate, however, that they be introduced here to provide an overview so as to understand their contribution to the discussion. These components are measures that ensure wealth generated from resource exploitation (minerals, gas, oil and fisheries) is shared equitably and forms part of the government and the developers overall efforts to share wealth derived from mineral or fisheries exploitation as resource rents.

Royalty payments are forms of payments received for the right to access resources (minerals, gas, oil and fisheries in this report) and to develop them for the benefit of others. Royalty payments are linked to property rights law and their application differs from country to country. Royalty payments come in various forms but the most common are the unit-based tax royalties, value-based or ad valorem royalties, and profit-based and income-based royalties (Fischer, 2007; Hancock, 2002). The ad valorem royalties are an assessment based on the value of the minerals and are determined through one of the following: ore at mine mouth, first product sold, recoverable and determined by the gross revenue from sales, and gross revenue minus allowable costs and finally as a percentage of Net Smelter Return. (Otto et al., 2006). The ad valorem royalty type is applied in PNG, and is generally referred to as royalty payments. These are set at 1.25 percent but according to Burton (1997), negotiation for royalty payments by landowners has increased and some landowners, for example, at the Lihir gold Project, have been able to obtain up to 2 percent of royalty payments. Currently, the Oil and Gas Act of 1998, Section 159, require royalty payments of 2 per cent of well head values (PNG Government, 2000).

Compensation agreement issues in PNG have been intensively researched and in fact, many of these studies have been undertaken by looking at the compensation issue as a problem rather than as a solution. In doing so, studies have concentrated on identifying the symptoms through the lens of customary obligations and geography that give rise to compensation demands (Connell, 1991). Compensation in this discussion should be seen as

a complement to the concept of BSA and how it can be used as a valuable tool to enhance BSA in the resources sector in PNG. While it is not the intention of this research report to delve into the details of compensation payments, it is useful for some aspects of compensation agreement be outlined to provide some understanding of how they are developed and in particular how their benefits can be optimised for locals and PNG as a whole.

A detailed analysis on compensation agreements are provided by Filer et al.(2000). This study discusses the definitions, background to compensation, application of compensation, and laws relating to compensation. It also highlights the recommendation for actions to be undertaken to make compensation more conducive and at the same time eliminate and reduce the unnecessary and exorbitant requests for compensation in PNG. Specific recommendations were then made to standardize compensation agreements ensuring standard categories and recommended standard rates for compensation to be paid (Filer, et al., 2000). Despite many of these, and other, recommendations, little formal action has occurred and compensation has been continually paid on an ad hoc basis.

For example, the Lands and Physical Planning Act (1989) applies compensation differently to that stated and used in Mining and Petroleum legislations (Filer, 1997). Such ad hoc legislation has given rise to some commentators such as Professor Richard Jackson describing the current status quo as ‘anarchic compensation conditions in PNG’ (Jackson, 1997, p. 114). While royalty payments are made according to the production value of the mine, compensation payments are made for the benefit of the unimproved value of the project land. There is no set standard rate applied, however, and the occupation fees are set as low as NZ\$0.28 (PGK 0.50) based on some dubious assumption that ‘unimproved bush land’ has no value. This was the case in the Bougainville copper project (Bedford & Mamak, 1977 as cited in Burton, (1997). Other compensation payments are also paid for damage to trees, crops, and harvestable resources often referred to as improvements to the land as well as disturbances to the quality of the water and fish resources. On the whole, it is observed and reported that compensation payments are inconsistent and vary from project to project.

Business Development Grants (BDGs) or commonly referred to in PNG as seed capital is a relatively new form of compensation. The idea was initiated as a result of consultations and negotiations by stakeholders in the Development Forums for projects in the petroleum and mining industries such as the Porgera Gold project, the Misima Gold project (now closed), and the Kutubu Oil project.

BDGs have gained popularity with the LNG project because of controversies surrounding payment (McIlraith et al., 2012). Generally, in the business arena, development grants are monies provided to individuals or groups for a specific project or program, often acquired through stringent guidelines and criteria. Most grants are provided by governments, donor partners, Non-Governmental Organisations (NGOs) on behalf of institutions such as the World Bank (WB) and Charitable organisations. The approval process for these grants can be lengthy before a grant is approved (Wall & Pelon, 2011).

Under the LNG project, the PNG government has allocated a total of K120 million (NZ\$68,088,000)⁴ to assist landowners to participate in spin-off business activities. The BDGs or the seed capital is a government grant for business development rather than a cash handout. Unfortunately landowners have found ways to divert these funds to other areas that have no relevance to business development and often for purposes for which the funds were not intended. The BDGs were initially paid by the Department of Petroleum and Energy, and this responsibility was later transferred to the Planning Department. The role of approving and the appraisal of proposals were vested with the Department of Commerce and Industry. According to McIlraith et al.(2012), there has been wide abuse of these monies by bogus landowners due to failures in the system such as inadequate checks and balances and consequently these have further contributed to the occurrence of numerous conflicts.

Elsewhere in the mining sector, there has been little mention of BDG. In Misima, for example, Gerritsen and MacIntyre (1991, p. 50) provided an analysis of business

⁴ Quoted exchange rate of K1=NZ\$0.5674, Post-Courier Newspaper, 3 Friday, 2013, <http://www.postcourier.com.pg>

development support in the form of human resources and various business activities that sprung up to take advantage of the mine development activities. These have not, however, explicitly mentioned grants provided by government. Similarly, Banks (1999a, p. 249) outlines the support provided by PJV for business development through various contracts given to assist commercial, sustainable business to local Porgera landowners, and discouraged seed capital or cash hand-outs.

Other non-monetary components of BSAs are directed at improving wellbeing and other development needs of the community affected by resource development. The three that are highlighted by Bachurova (2012, p. 4) are, 'livelihood restoration and enhancement, community development, and infrastructure development. Livelihood development and enhancement can be secured through employment at the construction and operation of the project and provision of training. Community development can be referred to as providing assistance in the areas of health and education services and infrastructure development including infrastructure development such as roads, bridges, health, and educational facilities'. Most of these non-financial benefits are provided through what Hancock (2002) Filer and MacIntyre (2006) describe as preferential treatment or preferred area policies to people affected by resource development projects.

In PNG, the fisheries sector manages similar project grants known as the Project Development Fund (PDF). This funding is provided under the United States Multilateral Treaty on fisheries between member Pacific Island States and the United States (US). The PDF has a yearly allocation of US\$90,000 and is managed by the Forum Fisheries Agency (FFA) on behalf of these Island States. Its main objective is to support small to medium fisheries enterprises (Forum Fisheries Agency, 1994). Like the BDGs, the PDF has certain criteria and format set as guidelines to acquire funding for fisheries projects. Similar to the BDGs, the PDF had its share of bogus claims from individuals in the guise of small-scale fisheries ventures, and at most times, funding was approved for projects not related to fisheries. Since its inception in 1987, there have been numerous projects that have been funded in PNG under the PDF with limited success (Doulman & Wright, 1983; Kailola, 1995).

2.1.5. Conclusion

There is no universally accepted definition of BSAs that can be used to define it, however, there are numerous definitions that are applied to suit individual circumstances. While it is agreed in principle that there are similarities, there are some distinct characteristics of benefit sharing that stand out. These characteristics are that they are negotiated, legally binding and recognise property rights, aim to be equitable, internationally aligned, allocate responsibilities and ensure that it has development coherence. The literature has established that benefit sharing in bio-diversity, fisheries, and water use is linked to conservation, management, and sustainable use, inclusive of property rights. In the extractive sector, benefit sharing is concerned with ownership and exploitation. The literature surveyed on the concept, origins, use and definition has given some insights and understanding of the concept of benefit sharing agreements that will be referred to when examining the development of BSAs in PNG.

2.2. The Policy, Legal and Institutional Framework of Benefit Sharing Agreement

2.2.1. International policies on BSA

The global experiences of benefit sharing agreements vary widely. The success of converting wealth from these resources into economic growth can be an indication of these successes and depends largely on how well BSAs are shaped and executed. Many successes and failures of BSAs have been largely attributed to prevailing conditions. Recent case studies and a growing body of literature points to the areas of revenue management as being critical (Fischer, 2007, p. 2) Fischer states that the body of literature that is available highlights how developed countries concentrate on increasing wealth in terms of how they invest this wealth into international equities, while developing countries focus on investing in infrastructure, health and education. Others consider the abuse of savings and stabilisation funds as well as considering macro-level economic policies that focus on the issue of resource curse— where too much emphasis is placed on mineral wealth and neglects other sectors such as agriculture, thus stifling economic growth (Fischer, 2007). As a result of all these, micro level emphasis and the distribution of benefits to other stakeholders,

particularly to resource owners, are neglected. Similar arguments have been highlighted by O’Faircheallaigh (2011, p. 5), who outlines four factors that shape the institutions that influence mining revenues and their impacts on landowners. First, these approaches are shaped by the intrinsic characteristics of mining, which make it difficult to equitably distribute benefits to beneficiaries. Secondly, the distinctive cultural and social characteristics of landowners make it difficult to spread mining revenues equitably. Thirdly, benefit sharing can be affected by the culture and organisational characteristics of institutions. Finally, BSAs can be impacted by the policy and institutional frameworks that determine revenue sharing. While these factors are inherent in the nature of mining and shape their settings and policies, tending to bring negative results, O’Faircheallaigh argues that the implementation of robust management structures can result in positive outcomes.

International policies pertaining to BSA concentrate on the negative impacts associated with resource extraction, and as a result, appropriate laws have been enacted to counter these impacts. According to Sosa and Keenan (2001), one way of ensuring benefits that mitigate any negative impact is through negotiating a binding agreement between companies and local landowners. This would give landowners a voice in matters affecting them, be it environment or socio economic impacts. While many landowners or first nations⁵ acknowledge binding agreements as a way forward, others are cautious especially when governments are not involved. It will mean that government funding will be unavailable for undertaking negotiations or simply that landowner interest may not be fully enshrined in the agreements.

International organisations such the World Bank, African Development Bank (AfDB), International Finance Corporations (IFC) and Asian Development Bank (ADB) have recognised the importance of BSAs and have incorporated policies that support benefit-sharing agreements into their programs. The World Bank recognises and covers BSA under

⁵ First nations refers to various Aboriginal peoples of Canada who are neither Inuit or Métis

www.justice.gc.ca

section 4 of its Operational Policies on “indigenous people and involuntary resettlement” (World Bank, 1999). The AfDB addresses benefit sharing issues in its Involuntary Resettlement to ensure that when people are displaced by project undertakings are treated equitably and share in project benefits (African Development Bank, 2003). Similarly, the IFC outlines BSA under Section 5, of its’ guideline Performance Standard’ - Land acquisition and Involuntary Resettlement, concentrating on compensation payments (International Finance Corporation, 1998). The ADB, addresses benefit sharing under involuntary resettlement safeguards (Asian Development Bank, 2000). Some of the countries that have benefit sharing regimes enshrined in their National Legislation are Brazil, Norway, Colombia, Vietnam and Nepal. Vietnam for example, embodies three forms of benefit sharing agreements suited to people adversely affected by resource development projects. These pieces of legislation, according to Bachurova (2012, p. 4) represent various attempts at the equitable sharing of the project output and services, the sharing of monetary benefits of resource extraction and for non-monetary benefits in projects, placing emphasis on preferential rights to jobs and business activities (Bachurova, 2012).

The discussion above, shows that international institutions have accommodated the concept of BSA, which should provide PNG the opportunity to learn, refine and adopt some of the policies of these institutions. Vietnam, for example, implements similar policies to those already applied in the PNG resources sector such as the preferential right to employment meaning that if a project is located in a provincial boundary, work preferences will be given to those in the province, then the region and finally, the country (Filer & Macintyre, 2006). As pointed out by Gerritsen and MacIntyre (1991, p. 35) as PNG develops its mines, ‘a more holistic and better understanding of mining impacts will reap obvious and immediate dividends’. BSA is one such approach that can greatly improve people’s participation in, and benefits from, resource development.

While it is appropriate and necessary to have legislation and policies, the question of institutional capacity to implement, monitor and manage also arises. These various capacities must be addressed together to institute a BSA that will have a positive impact otherwise it is likely to create confusion and become an inefficient tool for sharing resource benefits.

The following are some measures that can be carried out to achieve the goals of BSAs as described by Rosendal (2010, p. 11). Firstly, there needs to be an informed and well-educated human resource pool and readily available finance to promote the effective implementation of BSAs. Secondly, the BSA needs to be consistent with other international policies with a clear demarcation of responsibilities demanded of the institutions responsible for their implementation. The third area that needs to be addressed in order to move the agreements forward, is development coherence. It should be seen to promote the equitable sharing of benefits as well as ensuring that the benefits derived are reinvested to improve living standards and to acquire equity shares in resource development project. An example of equity acquisition would be the Porgera and Lihir landowners in the respective mining operations. Often in the developing world, there is an element of these three factors missing that render a useful BSA unworkable. (African Development Bank, 2003). For example, under the Fisheries Access Agreements, there are instances where those involved in negotiated agreements lack adequate knowledge of the available stock and lack management capability to effectively carry out surveillance and monitoring of Distant Water Fishing Nations (DWFNs). Access agreements therefore have generally failed to sustain economic growth and can be seen as a disincentive to developing local capacity consequently creating a hand out mentality as pointed out by Kuwimb (2010).

2.2.2. PNG policies on benefit sharing

This section will briefly review past and present policies that have given prominence to BSAs or their predecessor - compensation - by looking at their management and operation. There has been an abundance of research undertaken to recommend a standard policy regime to govern BSAs; however, by far most of these have been abandoned or shelved due to various reasons, the more notable ones being numerous changes in government regimes in PNG since 1975. Studies ensuring a coherent policy for BSAs have been undertaken by government or its institutions and multinational organisations, such as the World Bank, or project developers. These are aimed at setting standard revenue rates, categories and payments. The next section highlights and discusses policy establishments in the fisheries, mining, oil and gas sectors and how they relate to benefit sharing.

Policies pertaining to, and governing compensation, and/or BSAs have varied over time in PNG. Most have developed from Mining ordinances dating back to 1964 when copper was first discovered in Bougainville and preparation for large scale, open pit mining commenced. According to Bedford and Mamak (1977, p. 53), 'deriving suitable compensation policies, which were acceptable to the landowners, the Administration and Company proved to be a complex and time-consuming business'. The Bougainville copper project was a unique example in the history of resource exploitation in PNG. Policies adopted in earlier mining ventures such as the Bulolo goldfields were totally inappropriate because the scale of the Bougainville operation and hostility from landowners meant that new precedents have to be set and new policies devised (Bedford & Mamak, 1977). The authors further stated that, compensation policies evolved in an atmosphere of confusion and antagonism and therefore were developed in a haphazard fashion. Decisions made reflected hasty and compromised solutions to particular incidences or disputes and there was no real attempt to plan for the communities whose lives would be most affected by the development. Similar sentiments have been echoed by Banks (1998), that prior to Bougainville, there was no consistent and comprehensive policy on compensation, in fact the provisions in place were based on defacto decisions that arose out of various legislations (mostly adopted from Australia), mining wardens rulings, court actions, and parliamentary decisions. More recently policies have been established through the work of inter-department working committees established by the government (Filer, et al., 2000). The two examples below of timber rights permits (TRP) and fisheries access agreements explain how the status quo in PNG could be tied to Australian Administration policy. The then government of PNG together with Australia negotiated the TRP to felled trees to produce wood chips in Madang, PNG. The project was undertaken by JANT (Japan Australia and New Guinea Timber) and commenced operation in 1971. Since then they have not been obliged to pay compensation although a royalty to the value of K5.00/M₃ or NZ\$2.9/M₃ was paid to landowners (Bun & Bewang, 2004).

In the fishing industry, there have been numerous reports alluding to royalty payments but none on the compensation and benefit sharing policies. Most policies on fisheries referring to compensation or BSA emerged after the 1978 declaration of the 200 mile Economic

Exclusive Zone (EEZ) under UNCLOS. It marked the beginning of fisheries policies concentrating on inviting foreign interests in to fish for tuna and for this right they would pay annual access fees for fishing within the EEZ. Any policy relating to benefit sharing and compensation prior to 1975, had been arranged by the Australian Administration with little mention of BSA or compensation (Doulman & Wright, 1983).

Policies to exclusively deal with compensation and BSA policies began in the later part of 1980s and early 1990s. These initiatives, according to Filer et al.(2000), were prompted by the result of negotiations in the development of the Misima and Porgera mines. The outbreak of the Bougainville conflict further necessitated and marked the beginning of the process of establishing policies relating to compensation and benefit sharing. Various papers and discussions, including research that revolved around compensation, all attempted to find solutions that could be taken to reduce the number of claims, and to set standards and categories (Power, 1997). There were various explanations on why compensation was an issue. According to Strathern (1997, p. 1), there were difficulties relating to questions of translation, social contradictions and ambiguities. It was a term that belonged to many worlds and was used as a bridge between them where compensation was a concept that was already well established in pre-contact PNG societies (Jackson, 1997). Research into compensation benefits were initiated by the government who wanted development and revenue to sustain the economy while at the same time trying to appease aggrieved landowners. The magnitude of the compensation issue however, meant that the problem remained. In response, the PNG government established government committees and funded research to look at the problem while establishing and strengthening government institutions on how to deal with the issues (Filer, et al., 2000).

The Ministry of Justice requested the Law Reform Committee (LRC) to review legislation relating to the conservation and development of natural resources. The Prime Minister, Sir Julius Chan⁶ directed that an inter-departmental working committee be established and chaired by the Department of Prime Minister and the National Executive Council (PMNEC)

⁶ Sir Julius Chan was the 2nd Prime Minister of Papua New Guinea after independence, 1975. He was Prime Minister from 1980-1982 and from 1994-1997

Secretary to recommend guidelines and procedures for controlling excessive compensation claims (Filer, et al., 2000). Other such committees and groups were established to tackle the compensation issue. Assistance was also made available under various Technical Assistance programmes (TAs) and grants from donor partners to assist with the process. For some TA programs, it led to the extent of separating some Departments. In 2003, for example, a review of mining under the European Union Mining Support TA resulted in the Mining Department having its regulatory powers vested under the new Minerals Resources Authority (MRA), whilst the former policy arm of the Mining Department reverted to the Department of Mining Policy and Geo-hazard Management (Mineral Resources Authority, 2008). Elsewhere in the fisheries sector a major fisheries policy and legislative reform commenced in 1993 with assistance from the ADB. This paved the way for restructuring the fisheries sector to more effectively serve its people. It resulted in the establishment of the National Fisheries Authority (NFA) which focused on management and sustainable development of off-shore fisheries (Kwa, et al., 2006).

More recent policy initiatives on BSA have been structured and based on a whole-of-government approach. Firstly, the policy environment has been shaped under the PNG Vision 2050 (Vision 2050) and PNG Development Strategic Plan 2030 (PNGDSP 2030). These two government documents place BSAs and natural resources within long term development planning for the nation. While these documents do not specifically address BSA, they have spelt out strategic ways of achieving them (Monitoring, 2010; National Strategic Plan Taskforce, 2011). The PNGDSP 2030 (2010, p. 99) in its strategy to maintain revenue from the sustainable mineral sector calls for, 'a provision of regulatory and policy framework that is both simple but effective to keep industry compliance costs to a minimum, to protect the environment and to ensure landowners and other stakeholders benefit'. These overarching policies provide the broad framework on compensation, participation, and benefit sharing and give individual sectors the opportunity to frame their legislations and policies to address the needs of the industries concerned, and generally call for a new BSA approach. Both documents are structured in a way that complements one another in achieving the development goals for PNG.

2.2.3. The Legal and Institutional Framework

This section surveys existing literature on the available laws and regulations that are available in PNG to support the existence of BSAs and their implementation and management. It will also look at whether the framework of the existing laws are in harmony with each other.

The legislative and administrative process in PNG has been established to cater for the individual needs of the industries. In the extractive sectors, these processes begin early at the exploration, development and production stages of resources. While most legislation is not ideal it generally does satisfy some industry needs and is considered appropriate in covering most aspects of resource use (Dalton, 1988). Legislation derived its guiding framework from the PNG National Constitution. As outlined earlier (Introductory Chapter) Goals 2 and Goals 4 of the Constitution makes reference to equitable benefit sharing as pointed out by Kwa et al.(2006, p. 60). This gives an overall framework to establish other laws that are consistent with the constitution, and any inconsistency is to be considered invalid and ineffective. The respective resource legislation that flows from this are spelt out below.

The PNG Mining Act 1992 basically reinforces the idea of compensation as a form of benefit sharing by capturing it in Part VII, Section 154 (1) – Compensation to Landholders that reads:

The holder of a tenement is liable to pay compensation, in respect of his entry or occupation of land the subject of the tenement for the purposes of exploration or mining or operations ancillary to mining, to the landholders of the land for all loss or damage suffered or foreseen to be suffered by them from the exploration or mining or ancillary operations.(PNG Government, 2000)

Section 154, part 2 (a-h) covers the specific items for compensation(Filer, 2006). Section 154 (1-2) is strengthened by Section 3 – Consultation, subsection 1- which gives powers to the Minister responsible for mining to call for a Development Forum that listens to the views from those who will be affected by the granting of mining leases so that a fair hearing, and

concerns around benefits and other issues, will be dealt with at this forum. While it is not the intention of this study to dwell on the specific details of the Act, it is necessary to point out that the mining sector is advanced because legislation captures BSAs especially in Section 3 and Section 154 to 156. Similar applications can also be found in the Oil and Gas Act of 1998. According to Kwa et al.(2006), and as stipulated in the Oil and Gas Act (1998), the lease holder is required to carry out social mapping to identify landowners. The result of this social mapping undertaken by the developer (leaseholder) will then allow the Minister to call for participation at the Development Forum. Specific details of benefits between landowners, government and lease holders are agreed to at the Development Forum by way of undertakings through the MOAs.

The Incorporated Land Group Legislation (ILG) (1974) has been a valuable legislative tool and it is supposed to be used to give recognition, protection and powers to landowners. Despite the good intentions of easing pressure on development, its widespread application and use has been minimal until recently (May, 2009; Weiner, 2007). The ILG legislation provides a vehicle for customary involvement in a BSA in resource development. It empowers and caters for land under customary ownership and is used to enable landowners to participate in development. To make customary land ownership stronger, this legislation has been established to try and ensure that land owners derive benefits from resources that are extracted from their land (Yala, Chand, & Duncan, 2010). The ILG Act 1974 administered by the Ministry of Lands, enables customary land owners to hold, manage, deal and dwell on customary land while having the power to negotiate with outsiders who want to use the land (Antonio, Wagi, & Kari, 2010; Weiner, 2007). While there are other purposes to this ILG Act, the three most important aspects that relates to property rights issues and therefore give effect to BSA are, firstly, to provide greater certainty of title, secondly, to provide legal recognition of the corporate status of customary and similar groups, and thirdly to give customary land owners more power, by conferring on them, as corporations, the power to acquire, hold, dispose, and manage land, as well as ancillary powers (Antonio, et al., 2010, p. 61).

The legislation gives landowners legal recognition as stakeholders in resource development and gives them added value when negotiating benefit sharing outcomes. There are some

criticisms around the legislation, and among the more notable are those related to its management, capacity, support, and administration (Power, 2008). Apart from this traditional critical trend, there is the growing issue of over utilisation of the ILG act by landowners in the petroleum industry which has been cited by Weiner (2007), and the current LNG project involving self-interest and greed. These ILG groups are referred to as Paper Landowners or simply PLOs who do not identify with the interests of genuine customary landowners but instead represent themselves and their cohorts who often live and dwell in towns and cities (Muri, 2013). Filer (2011) describes similar occurrences in agriculture and forestry by stating that land legislation in PNG characterises innovations which have failed to achieve their intended aims as they were used in ways that were not anticipated by the original framers of the legislation. The ILG legislation is considered as a development tool and is often misapplied. However, given that the ILG legislation contains characteristics of property rights, it can greatly enhance benefit sharing.

The Fisheries Management Act 1998 is different to the above legislation. Its main concern is sustainable management of fishery resources. Customary ownership is confined to the 12 mile fishing area from the shoreline and beyond the 12 mile is considered open access. Unlike mining, petroleum, and gas resources, there has been no absolute recognition of ownership. Customary rights issues often play a limited role in the development of a fishery resource. Efforts under the Fisheries Management Act are confined to large scale commercial fishing activities and access to the fishing industry is through access agreements between one state and another or between the state and the multinational corporations of other states.

2.2.4. Conclusion

The global literature on benefit sharing agreements points to the fact that BSA policies are largely shaped by their execution and depending on the situation, BSAs can be impacted by revenue management and the needs of society. Other policies on BSA concentrate their efforts in mitigating negative impacts borne by society and the accompanying legislations are set to reduce the impact and enhance wellbeing from resource developments (Sosa &

Keenan, 2001). These are the policies of some governments and international institutions such as the World Bank. Policies in PNG have been somewhat inconsistent with earlier policies giving less emphasis on benefit sharing but concentrating on economic growth and development (Filer, et al., 2000). Most policies in PNG were defacto and built on an as is where is basis without a clear overall direction. It appears that development was a response to random situations which arose that warranted attention such as in the earlier phase of the Bougainville copper project (Banks, 1998). Others were aimed at re-emphasising the goal of economic growth and development by outside organisations as the way forward. Recent policies, such as the PNG Vision 2050 and Development strategy 2030 are more specific, and are framed through the overarching Constitutional goals that are linked to sustainable development. These policies are strengthened by legislations, which ensures that BSAs are given more emphasis as a tool for economic growth rather than a stand-alone element. The constitution of PNG provides the overall framework that allows the development of sector legislation such as the ILG, mining, and fisheries act to capture the equitable sharing of benefits in line with their immediate and long term needs.

Chapter 3 – RESOURCE PROJECTS AND BENEFIT SHARING AGREEMENTS

3.1. The Benefit Sharing Agreement in the PNG Resources sector.

3.1.1. Introduction

Having discussed the concepts, definitions, the components and characteristics of benefit sharing agreements, this final chapter intends to look at the history and the evolution of benefit sharing in specific projects in the extractive and fisheries sectors in PNG. The chapter also includes notes on their geographic, social settings, ownership, location and negotiation processes of each project and outlines how benefit sharing has evolved over a period of time. (Refer to the attached PNG resources map provided in the introductory chapter for locations.)

3.1.2. Bougainville Copper Project

The Bougainville copper project was the first large scale mine to come into operation just before PNG gained its political independence from Australia in 1975. The Bougainville Copper Agreement (BCA) was signed in 1967 as an Act of Parliament. It allowed the mine to operate an open-cut mine located at Panguna on the island of Bougainville, which is now an Autonomous Province of Papua New Guinea (Filer, 2005, p. 908). The Panguna Mine has produced copper concentrate containing gold and silver from 1972 until operations were suspended due to militant activity in 1989. Mine operations remain suspended while negotiations are under way for a possible re-opening. In essence, the Panguna mine was Papua New Guinea's single most important revenue earner, employed a labour force of about 12, 500, and had one of the most enviable training programs available in PNG (Banks, 1998; Cooper, 1992; Treadgold, 1971).

The commencement of mine activities saw the development of policies relating to compensation benefits for local communities. According to Banks (1998, p. 56), there was no set policy on compensation prior to the BCA and the practise for compensation was based on 'de facto policies that arose from a combination of existing legislation, mining

wardens rulings, court actions, and parliamentary decisions'. This has been supported by earlier literature, pertaining to land acquisition for mining in Bougainville executed under the then Mining Ordinance Act, 1928 which did not recognise land ownership (Cooper, 1992, p. 8), as well as a Bill which awards 5 percent royalty to landowners which was passed in the 1964-1968 House of Assembly (Dorney, 2001, p. 118). There was limited emphasis on generating benefits to landowners because at the time it was a Colonial administration policy that minerals were state owned and therefore benefits would generally spread from project to project to protect and to promote the national interest. The strict colonial government policy meant that the original BCA of 1967 was negotiated and signed between Bougainville Copper Limited (BCL), a subsidiary of ConZinc RioTinto of Australia and the Colonial administration government despite resentment from landowners and a demand for the recognition of their rights. The agreement contains 4 major leases that included the mine site, tailings, a port and company town. Growing resentment from landowners saw the eventual involvement of landowners (Banks, 1998; Cooper, 1992; Dorney, 2001; Filer, 1990) The BCA was supposed to be reviewed every 7 years from its inception in 1967, however lack of government support led to delays and caused much dissatisfaction among landowners as their needs were not addressed in the original Agreement. This was one element that eventually led to the Bougainville conflict.

According to Banks (1998, pp.56), the following were agreed to in the 1980 re-negotiation of the BCA:

- Occupation fees set at 5 percent of unimproved land and annual rental fees under the Mining Act,
- Bush compensation at an annual rate on area of lease,
- Social inconvenience compensation at K15 or NZ\$9.00 per hectare captured under the Road Mining Tailing Lease (RMTL),
- Physical Disturbance Compensation at K10 or NZ\$6.00 per hectare which is land disturbed by mining,
- Inconvenience compensation at K20,000 or NZ\$11,348 disruption to relocated villages, and

- River and Fish Compensation paid for disruption to traditional fishing in rivers calculated on the assumption that each villager lands 22kg of river fish multiplied by the cost of purchasing an equivalent weight of tinned fish at local trade stores.

The above compensation arrangements that was set under the 1980 revised agreement which detailed measures of compensation to be paid over the life of the mine. Before the closure in 1989, it has been estimated that a total of over K6,584,723 million or NZ\$3,736,172 at current prices had been paid as compensation (Banks, 1998). It is obvious that the compensation payments outlined above do not conform to the principles on which benefit sharing should be based such as recognition of property rights, negotiated, equitable sharing of benefits, equity, legally binding, development coherence, allocation of responsibilities and , international alignment. In agreement with Banks (1999b, p. 101) whatever was paid as compensation simply represented costs reimbursed to landowners for damage caused by BCL rather than benefits.

3.1.3. Ok Tedi Mining Project

The Ok Tedi Copper and Gold Project is located in the Star Mountains of the Western Province in the head waters of Ok Tedi and the Fly River systems. The project is operated by Ok Tedi Mining Limited (OTML) with the major shareholding originally of BHP Billiton who in 2002 formally transferred its 52 per cent share to PNG Sustainable Development Program Limited (PNGSD Ltd). (Banks & Ballard, 1997; Siop, 2008). The other 30 percent was held by the government of PNG and the remaining 18 percent was held by Inmet Corporation of Canada. In 2011, OTML became a company fully owned by Papua New Guinea interests due to the demise of Inmet which sold its share for US \$335 million to OTML leaving it fully owned by PNGSD Ltd (63.4 percent) and PNG government (36.6 percent) (Ok Tedi Mining, 2013). Out of the 36.6 percent PNG government share, the mine lease landowners have (2.5 percent), the Fly River Provincial Government (2.5 percent) and the Mineral Resources Ok Tedi No.2 (10 percent). The project is expected to close by 2013 but recent negotiations are continuing with the PNG government for mining to continue beyond 2013 (Kalinoe, 2008).

The OK Tedi Copper Agreement was established in 1981 through an Act of Parliament and the mine began actual production in 1984 after a decade of negotiation and construction. The project has been problematic from the start due to high cost overruns resulting from the harsh environmental conditions and rugged terrain that led to the abandonment of a tailings dam (Kalinoe, 2008). In a similar fashion to the Bougainville copper project, Ok Tedi is known for its controversial environmental management of its tailings disposal along the Ok Tedi and Fly River systems, inadequate compensation to downstream landowners, and the commencement of legal proceedings by the downstream landowners in the Supreme Court of Victoria against BHP Limited (Filer & Macintyre, 2006). Being the first postcolonial mine, Ok Tedi was characterised by the PNG government as an engine for economic growth and development. This was particularly the case with the closure of Bougainville copper in 1989 which posed a serious financial crisis, therefore certain concessions were unavoidable and granted easily by the PNG Government such as an allowance to proceed with the riverine tailings method despite opposition both within country and abroad (Hanson & Stuart, 2001; Hyndman, 2001; Kirsch, 2007).

The focus of the initial Ok Tedi Copper Agreement was on economic growth and development which failed to recognise the rights of those that would be affected by the riverine tailings. Over time, there had been significant environmental consequences which resulted in amendments to the original agreement to compensate those affected along the Fly and Ok Tedi rivers because of tailings and sediment build up causing environmental hardship to those people living along these rivers (Banks, 1998; Banks & Ballard, 1997; Kirsch, 1997). The amendments however, did not alter the rights of the original landowners in the 4 special mining leases which include the Mt. Fubilan, Tabubil Township, Ok Ma dam site and Kiunga-Tabubil road access. These customary landowners by legislation under the original agreement hold a 2.5 percent equity and receive compensation such as an occupation fee, a fee for deprivation of possession or use and enjoyment of surface land of a subsistence way of life, social disruption and relocation fees (Kalinoe, 2008). In response to wider local concerns, OTML established the Ok Tedi/Fly River Development Trust aimed at bringing long term benefits to communities along the rivers.

The Ok Tedi Mine Continuation (Ninth Supplemental) Agreement (MCA) provides for the establishment of six (6) separate agreements with landowners. It was executed after the lawsuit was settled and included a 40 million Australian dollars (AUD 40 million) out of court settlement with river landowners. According to Kalinoe (2008), the Community Mine Continuation Agreements (CMCAs) were given statutory powers under the Ok Tedi Mine Ninth Supplemental Agreement with new and innovative ways to control and contain excessive compensation claims from environmental damage in resource development projects. The CMCAs departed from existing compensation regimes where developers pay general compensation to those within the Special Mining Lease (SML) and seeks to include those in the wider area of mine impact. The CMCAs have provided another initiative to landowners to share mining benefits, despite having to mitigate the effects of wrong decisions and short sightedness in establishing the original Agreement and these have provided additional emphasis in designing the concept of benefit sharing in PNG.

3.1.4. Porgera Gold Project

The Porgera Gold Project is located in the Highlands of Papua New Guinea, west of the provincial capital, Wabag. The project has been described as spectacular by Banks (as cited in Filer, 1989, p.3) in the sense that, the project was financially and technically impressive. It was initially a low cost-gold producer; however, in the course of its operation from underground to open cut, costs have escalated. The geological features of the Porgera deposit make it an exciting prospect. It was also a challenging project for the PNG government, particularly following the demise of Bougainville, for its revenue and focus on granting landowners their share of mining wealth through the implementation of the Development Forum concept for the first time.

The Porgera gold mine is a joint venture operation 95 percent owned and operated by a subsidiary of the Canadian mining company, Barrick, with the balance being held by the Enga Provincial Government (EPG) and Porgera Landowners. It utilises open-pit and underground mining operations and is considered one of the largest resource projects in the Asia-Pacific region. The Porgera mine discharges its tailings into the headwaters of Fly River

systems initially through the Lagaip and Strickland river systems. (Banks, 2001; Golub, 2006). The project began construction in 1989 and production commenced in 1990. Major features of the Porgera project are the Fly In Fly Out (FIFO) arrangements for the bulk of the workforce and the impressive unity and organisation initially of the landowners and their representative bodies in negotiating benefits and responsibilities. The Development Forum concept first applied here provided an opportunity for landowners to directly negotiate benefits such as the 5 percent equity participation share for landowners and EPG from the National Government. It also provided other benefits from the government such as investment in the development of the Paiam town and the Kairik Airport.

There are 3 separate agreements between the National Government, the EPG and the landowners resulting from the Porgera Development Forum which contain some undertakings outside of the requirement of the Mining Act, 1989 (Filer & Imbun, 2009, p. 88). These undertakings included 13 per cent of the royalties to be allocated to SML landowners and 10 percent to the Porgera Development Authority (PDA) responsible for the distribution of public goods and services. The EPG was allocated a reduced share in royalties, but were compensated with special support grants (SSG) from the National government at the rate of one per cent of the value of the mine production for the first 10 years of the mine operation. Further arrangements were made for the provincial government and landowners to acquire 49 per cent of the state's 10 per cent equity in the Porgera Joint Venture (PJV) with an option to buy the remaining 51 per cent after five years. An arrangement was also negotiated which involved the phasing out of the FIFO system to ensure that a mining town was established and developed. Most of these negotiated mining packages that came from the Development Forum in the Porgera project, were used as a basis for a model to develop and distribute mining wealth that was then applied to other projects, under the revised the Mining Act of 1992 (Nonggorr, 1993). This would later be incorporated into a standard mining contract and used as a basis for future projects such as the Lihir Gold project discussed later.

The PJV major partners have paid substantial sums in compensation under various agreements (Filer, Burton, & Banks, 2008; Filer & Imbun, 2009; Jackson, 2002). According to Banks (1999, p.100), 'compensation was paid for loss of land, damage to land or

improvements (including economic plants, other losses, various kinds of inconvenience, and loss of alluvial earnings)'. Annual land rentals were also considered as compensation and paid to SML and Lease for Mining Purposes (LMP) landowners at Porgera. These payments were part of the agreement reached between PJV and clans of the SML in 1988. According to Johnson (2012, p. 36), over the past 20 years, a total of K190 million or NZ\$107.81million⁷ has been paid out as compensation by the company, which peaked during the construction period. In these payments, royalties were not included, but over the same period since 1990, a total of K280 million or NZ\$161.39 million was paid as royalty payment to EPG and landowners (Johnson, 2012, p. 41). The Porgera experience and in particular the use of the Development Forum to negotiate and design an equitable legally binding sharing arrangement in a way that recognises property rights, has given landowners elsewhere in PNG the impetus to negotiate as well as have a concerted voice for development benefits in any future projects.

3.1.5. Misima Gold Project

The Misima gold mine owned by Placer Dome (80 percent) and the PNG State's Oregon Minerals (20 percent) is located on Misima Island, South East of the Provincial Capital, Alotau. The Misima mine was the third economic project commissioned in 1988 by the PNG government as an open pit operation to alleviate financial hardship caused by the closure of the Bougainville mine (Banks, 2001). The mine began operation a year later in 1989 and continued until May 2001 when it officially closed operation. The Misima mine continued to process low grade stockpiles until it was decommissioned in 2004. Some features of the Misima project included tailings being discharged through a submarine pipeline into the seabed and a FIFO policy for its employees. One of its key features was the planned and systemic closure that was a milestone for other projects in PNG. Financially, Misima was considered a small project and its impact was marginal (Anderson & Moramoro, 2002). Taking into consideration the experiences of Bougainville and Ok Tedi, and to cushion the effects which resulted in disagreements looming over resource ownership, environmental

⁷ At the current exchange rate of K1=NZ\$0.5674, Post-Courier, 3 Friday, 2013 at www.postcourier.com.pg

damage and equitable benefit sharing from landowners in upcoming mineral and oil projects, the National Government in 1988 established the development forum. The Development Forum, as portrayed earlier with the Porgera project, paved the way for negotiations and discussions between landowners, project developers and provincial and national governments to define relationships including the rights and obligations of each other concerning the project that ultimately culminated in a network of agreements known as MOAs (Nonggorr, 1993).

According to Nonggorr (1993), under the Misima project, the following agreements have been in place including the main development contract between the State and Misima Mines Pty Ltd (developer), the State and Milne Provincial Government (MBPG), and the State and Misima Landowners. These individual agreements then spelt out specific obligations to be undertaken by the partners pertaining to benefit sharing. Some of the benefits between developer and landowners included relocation package such housing for SML and LMP landowners and other benefits such as education and health for Misima district through the SSG scheme. There were also drawbacks such as unequal distribution and marginalisation of women. For example, under the MOA between landowners and the state, the participation of women was marginal and benefits were distributed through male dominated entities despite Misima being a matrilineal society (Byford, n.d). The Misima project possessed the following characteristics of a BSA - a negotiated agreement through a Development Forum, legally binding in nature and having some recognition of property rights. The agreements have been satisfactorily agreed upon and parties executing the agreements have hailed these as the way forward in mineral and oil development especially when there was less initial disruption from project negotiation through to construction and production.

3.1.6. Kutubu Oil Project

The commercialisation of the Kutubu oilfield marked a significant step forward in the development of hydrocarbon in PNG which, until then, had been dominated by the hard rock minerals sector as a source of government revenue. The crude oil sector is a relatively new player, however history has shown that oil has been traditionally used by the local Fasu

people as a traditional form of body ointment and material for trade long before contact with the outside world (Kuwimb, 2010). In terms of infrastructure and disturbance, the oil and gas sector is considered less intrusive and environmental damage caused directly by the operation is minimal.

The Kutubu project was owned and operated by a joint venture partnership with Chevron Niugini Pty Ltd holding 19.375 percent, PNG government (22.5 percent), British Petroleum (19.375 percent), Ampol Exploration Ltd (16.46), BHP (9.69 percent) and Oil Search (7.76 percent). The shareholding changed in 2003, where Oil Search acquired 60.05 percent, Exxon Mobil 14.52 percent, Merlin 6.78 percent, AGL Gas Development Pty Limited 11.9 percent and Petroleum Resource Kutubu 6.75 percent. The project is located in the Hela Province of Papua New Guinea which was until recently a district of the Southern Highlands Province. The Kutubu project was also developed to counter the gloomy economic conditions faced by the closure of the Panguna mine and depressed agricultural commodity prices.

Oil production peaked in the 1990s following periods of high oil prices as well as the addition of new oil fields at Gobe, Moran and Mananda. The current production has stabilised but is declining. According to Gilberthorpe (2009), the construction and operation of the oilfields at Kutubu and adjoining fields followed careful steps to ensure that the operation was environmentally sound and local landowners were effectively compensated for the use of land. In this case, royalties and equity were paid accordingly. While supporting the project operation as environmentally friendly, Kupo (2010) disputes the notion that compensation and benefit sharing was smoothly implemented because of issues such as identification of landowners, the application and management of ILG law, and court cases amongst landowners over who are the rightful owners.

While the PDL had been approved before the actual commencement and operation of the project, nevertheless, a Development Forum was also retrospectively conducted for the Kutubu project. The forum concluded with other agreements such as MOAs that spelled out specific responsibilities and obligations to be undertaken to ensure the smooth operation of the project including benefit sharing. These included agreements between the National

Government, Southern Highlands and Gulf provinces, and landowners from the two provinces. Kikori Landowners in the Gulf are included because the oil pipeline runs through their land and terminal facilities have been constructed on their land. The Kutubu Oil project had several features of a BSA, the main ones being; the project was negotiated, legally binding and it recognised property rights. The project has ensured that landowners were able to use financial benefits to purchase properties such as the Heritage Building in Port Moresby (Development coherence) and is in line with international policies.

3.1.7. Lihir Gold Project

The Lihir mine is located on Lihir Island which is off mainland New Ireland. Lihir commenced operation in 1997 and is expected to have a mine life of 35 years. There have been recent upgrades sanctioned by the government (Million Ounce Plant Upgrade) at the Lihir mine to increase production and reduce the life of the mine (Mineral Resources Authority, 2008). The project was developed and managed initially by the Lihir Management Company, a subsidiary of Rio Tinto holding (16.26percent), Orogen Minerals (9.07 percent), Newmont Mining (9.74 percent), Battle Mountain Gold (9.74 percent) and Mineral Resource Lihir (6.76 percent) (Banks, 2001). In May, 2010, the operation and management of the Lihir Gold mine was acquired by Newcrest Mining Limited along with the responsibilities and obligations involved. In a similar way to the Misima operation, the Lihir project discharges its tailings via pipeline to the seafloor and produces gold from its open pit operation as well as having in place a FIFO policy for its employees (Bainton, 2009). The project attained recognition in 2010 for its environmentally friendly practices particularly in using thermal power technology for its operation.

The Development Forum negotiations have delivered benefits and provided a relatively stable operating environment for Misima, Kutubu, and Porgera, but they have achieved a much better benefit sharing deal for the Lihir Gold Project. While the other 3 projects claimed recognition for their part in negotiating with landowners, Lihir became one of the most sophisticated projects that had employed the Development Forum concept. Production was delayed for technical and financial reasons for almost 3 years resulting in

the negotiation of cutting edge benefit sharing agreements (Bainton, 2009, p. 29). The various agreements that were associated with the Lihir mine include the Mining Development Agreement with the State, Agreement between landowners and State, State and Provincial Government and Local Level Government. According to Jackson(2002), the benefit sharing packages that were finally agreed were contained within the IBP. Among one of the more notable benefit streams is the 20 percent share of the 2 percent royalties to the landowners with another 30 percent going to the Nimamar Local Level Government which is by far the largest royalty allocation provided to any local level government in project areas (Banks, 1998; Jackson, 2002). Furthermore, the company is providing additional assistance to the landowners through the Lihir Sustainable Development Plan (LSDP) and various other trust funds.

These are long term solutions to implement and sustainably manage the royalties and to put these to productive use by investing in education, other essential services, and infrastructure. The Lihir regime has set a benchmark for benefit sharing arrangements in PNG (Filer, 1998). The benchmarks for the Lihir project are as follows, the project has been negotiated through a Development Forum, it recognised property rights, it has development coherence characteristics, it is in line with international principles of resource development and it is equitable.

3.1.8. Ramu Nickel/Cobalt Project

The Ramu Nickel/Cobalt project is located in Madang Province along the north coast of PNG. Ramu is a substantial world class operation that has the capacity to produce 3,300 tonnes of cobalt and 33, 000 tonnes of nickel per annum from wet tropical laterite. The project has a mine life of up to 40 years. The operation is categorized into 3 specific components and includes the mine site at Krumbukari plateau in the hinterland of Madang. Tonnes of earth are semi processed and piped as slurry through 136 kilometres (km) of pipeline to the coast at the processing plant at Basamuk Bay, where the processing is completed to extract nickel and cobalt before export (Highlands Pacific Pty, 2009). The by-product of the process –

tailings - will be discharged through a tailings disposal system into the ocean of the Vitiaz Strait.

There have been Court cases initiated by landowners relating to environmental concerns created by the tailings. While these are not related to benefit sharing, it caused delays to the commencement of the project. This matter has been resolved and the project will resume construction and is now set to commence full operation by the middle of 2013 (Highlands Pacific Pty, 2011). The project joint venture structure involves the Metallurgical Group Corporation (MCC), includes Jinchuan Group limited, Jinlin Ji'en Nickel Industry Corporation Limited and Jiuquan Iron & Steel Group Limited having a total share of 85 percent, Highlands Pacific with 8.56 percent, Mineral Resource Development Corporation with 3.94 percent and Landowners with 2.5 percent. MCC RamuNiCo manages and operates the mine on behalf of the partners as stipulated under the Mining Development Contract (MDC). Important features noted in the revised agreement confirm that the MCC Joint Venture (MCCJV) has the right to develop and mine the Ramu deposit and grants the MCCJV a number of generous incentives. The most notable incentive under the MDC is the granting of 10-year corporate income tax concession status which will be effective after commencement of commercial production (Anderson & Moramoro, 2002).

A number of MOAs have also been established defining benefit sharing from the royalties paid to project landowners (65 percent), Local Level governments (13 percent), and the Madang Provincial Government (22 percent). The project operation stretches from the hinterland to the coast affecting four (4) distinct geographic groups that have formed ILGs accordingly to benefit from the project. These landowner groups include, Kurumbukari (30 percent), Inland Pipeline landowners (Maigari) (4 percent), Coastal Pipeline (3 percent) and Basamuk (Plant site) (10 percent) and Easement landowners (18 percent), the benefits of which will be distributed equally on a per hectare basis. As pointed out by Jackson (2002), the landowner groups will each reserve 1 percent of royalties for future generation fund to be used after 15 years of project operation after first royalty payment is made (Minjihau, 2012). Landowners are also entitled to 5 percent carried equity, which is considered normal under the various mining agreements.

Apart from the royalties and equity being paid, the landowners will also benefit from other sustainable development activities funded under the Ramu Nickel Foundation (Jackson, 2002). As part of its obligation, the Ramu project is focused on ensuring that training is provided with associated development activity including contracts for goods or services to landowners, locally owned, and locally based companies (Highlands Pacific Pty, 2009). The characteristics of BSA in the Ramu Nickel project are that the project has been negotiated, property rights are recognised, it is legally binding and there are signs of development coherence. It also needs to be in line with international policies.

3.1.9. Liquefied Natural Gas Project (LNGP).

The global demand for gas is expected to increase to 20 percent by 2030 tripling demand for Liquefied Natural Gas (LNG) and PNG has taken this opportunity to support the development of the resource. The ExxonMobil PNG LNG project is the largest ever development project undertaken in the country (McIlraith, et al., 2012). Like the Ramu project, the PNG LNG project will deal with 4 distinct geographic and cultural groups thus making it more difficult to satisfactorily negotiate in terms of benefit sharing. The project covers four (4) provinces, ten (10) local level governments and over 150 registered landowner groups (Botten, 2010).

The well heads are located in the newly established Hela and Southern Highlands Provinces. The two highland provinces will host the extraction and conditioning plant, which will be piped through 450km of land and include an undersea pipeline to the condensation plant located 23km outside Port Moresby. It is envisaged that the project will produce 6.6 million tons of gas per year and over the 30-year life of the project and it is estimated that it will have produced over 9 trillion cubic feet of gas. At that point the total investment cost of the project will be US\$ 15 billion excluding shipping costs. It is also expected that the project will double PNG's Gross Domestic Product (GDP) growth to over \$30 billion over the life of the project (Chamber of Mines and Petroleum, 2009). The PNG LNG is operated and managed by ExxonMobil (33.2 percent) on behalf of its partners, including Oil Search Limited (29

percent), the PNG Government (19.6 percent), Santos (13.5 percent) and Nippon Oil/JPP (4.7 percent) (Kane, 2010).

Benefits derived from the LNG project are larger than benefits from other resource development projects and will be paid gradually over a longer period of time, including other spin off business activities. Due to the substantial size of the project, the benefit sharing arrangement which has been described by many as unique to PNG began with the Umbrella Benefit Sharing Agreement (UBSA) (ExxonMobil, 2009). The UBSA is an overarching agreement that defines how a number of the State's project revenue streams (royalty, development levy and equity dividends) will be shared and it also commits the State to undertake certain infrastructure projects in each project area. The UBSA was an outcome of a Development Forum which attracted a number of Landowner groups, Provincial Governments, Local Level Governments, the State, representatives of the project partners, and developers. The UBSA sets the benefits streams for wellhead landowners, pipeline landowners, plant landowners including their Provincial governments and Local Level Governments (ExxonMobil, 2009). Key features of the UBSA include project equity and infrastructure grants in which the UBSA grants 7 percent equity from the 19.4 percent State share to affected landowners and their respective Provincial Government and Local Level Governments. It has also committed the State to fund infrastructure development for the next 10 years. Finally, the Landowners, under the UBSA had been seeking a 10 percent equity over and above the minimum 2 percent under the Oil and Gas Act. The final agreement therefore includes 2 percent free carry by the State with the balance of 5 percent equity provided via an option in 2016 to be paid by landowners and provincial governments. The infrastructure grants include finance for bridges, an international airport, a town at Tari and a port at the Plant site near Port Moresby (McIlraith, et al., 2012).

The LNG project agreement has set the model for benefit sharing which has developed overtime in the extractive industry. While it has deficiencies, such as the PNG Government not meeting commitments negotiated under the UBSA, landowner dissatisfaction and disruptions to project construction, it has fundamentally covered all the issues associated with the distribution of resource wealth. The PNG LNG project has all the characteristics of a BSA as outlined above. The PNG LNG project has been negotiated, is legally binding,

recognises property rights, and recognises aspects of equitable distribution. It also aligns with international policies and features a specific allocation of responsibilities.

3.1.10. Fisheries Agreements

The tuna fishing industry in Papua New Guinea is the largest of the fisheries industries and represents a balance of both domestic industry development and foreign access arrangements. Currently, domestic long line and purse seine vessels, domestic vessels, locally-based foreign and foreign access vessels all operate under various arrangements. These arrangements are guided by the National Tuna Fishery Management Plan established in 1999 to guide the development of fisheries including management, setting licence conditions and TAC (Kumoru, 2005).

Unlike the extractive industries which harvest resources that are fixed in a geographical location, dealing with fish is somewhat complicated because fish, particularly tuna, are highly migratory making it a common property resource. Common property resources grant specific rights to members who take control of the use of resources and prevent others from circumventing controls (Kuuluvainen & Tahvonen, 1995). Tuna fishing falls under the category of common property which gives ownership to island states claiming ownership of tuna caught within their waters. The UNCLOS further asserts this right to most Pacific Island Countries (PICs) including PNG who are signatories to this convention by declaring a boundary, 200 miles from shore known as the EEZ (Gillett & Cartwright, 2010; Teiwaki, 1988). Pacific Island countries have formed groups and associations to share benefits arising from the use of resources and at the same time enact laws and regulations to conserve and sustainably exploit the resources. It is also important to note that while coastal fishery is vital, it is nonetheless given lower status as a form of benefit sharing.

PNG is a party to a number of arrangements with its Pacific Island neighbours, which include the Palau Arrangement, Parties to the Nauru Agreement, and certain bilateral Arrangements with the United States known as the US Treaty, a bilateral Arrangement with Korea and Taiwan, and recently Japan (Teiwaki, 1988). This section will only highlight PNG's

participation under the Palau Arrangements and its implications on benefit sharing. The arrangement stems from a paper presented by PNG in 1982 to manage the purse seine fishery. Acqorau (2009) asserts that it was intended to establish a regional management of the high seas particularly those areas with State jurisdictions, a central licensing office and a fishing trip-fee formula intended to calculate fees according to the location of fish caught. While it is not the intention of this paper to dwell into the mechanics of these arrangements, the wider implications are useful as they are geared towards sustainability and management.

The Palau Arrangement has fully established the Vessel Day Schemes (VDS) to replace the TAC which was difficult to monitor. The Palau Arrangement, by design, has given Distant Water Fishing Nations (DWFN) an upper hand by granting control and power because management was determined by the number in the fishing fleet (Hanich, Parris, & Tsamenyi, 2010). The VDS was designed to enhance the management of purse-seine fishing vessel, by promoting optimal utilisation and conservation of tuna resources, maximising economic returns, employment generation and exporting from sustainable harvesting of tuna resources. These factors in turn supported the development and promotion of locally based purse-fishing industries while promoting efficiency, management and collaboration among the Parties (Acqorau, 2009, p. 567). The Palau Arrangement has given PNG the freedom to manage, conserve, and sustainably use its tuna resources to benefit the wider community rather than individual groups. The fisheries agreements are legally binding and are also negotiated between states. The agreements are in line with international policies, and endeavour to equitably share the benefits. Fisheries are a common resource and therefore property right is not recognised but there are some signs of development coherence.

3.2.11 Conclusion

Table 3.2: Characteristics and Components of BSA.

Project	Characteristics							Components						
	Negotiated	Legally Binding	Equitable	International Alignment	Development coherence	Recognition of Property Rights	Demarcation of Responsibilities	Royalty	Compensation	Business Development Grants	Equity	Tax credit	Employment & Training	Infrastructure Grants
Bougainville		✓						✓	✓				✓	
Ok Tedi		✓						✓	✓		✓		✓	
Misima	✓	✓	✓			✓		✓	✓	✓		✓	✓	✓
Porgera	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Kutubu	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Lihir	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Ramu	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
Liquefied Natural Gas	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Fisheries Access Agreements	✓	✓	✓	✓	✓	✓		✓					✓	

It can be seen from the table that, there has been a gradual improvement of benefit sharing agreements over time since the first resource project became operational in 1967. The Bougainville Copper project had only a few characteristics of a BSA. It was legally binding; it paid royalties, compensation and provided employment and training. The Ok Tedi project was similar in nature, however, the introduction of the Development Forum introduced changes to the initial agreement. The Porgera Gold project, Misima (now closed), Kutubu Oil Project, Ramu Nickel and Lihir Gold project have almost all the characteristics of BSA, due to the negotiation process arising as a result of the Development Forum which began in 1989 for the Porgera gold project. Fisheries Access Agreements have few characteristic of a BSA and are therefore different from land based resources that have property rights characteristics. Fisheries resources are common property and access to these resources require separate arrangements to access. Finally, from the table, it can be seen that the LNG project possess all characteristics of a BSA. This is due to the development of benefit sharing that evolved over time and also the huge financial benefit that the PNG LNG project will provide once it commences production.

In summary, lessons learnt from the discussion on each of the projects in PNG have shown some important characteristics. In the case of the Bougainville and Ok Tedi copper projects, economic growth and development was the main driver and both were established under separate Acts of Parliament. Their establishment resulted in the government pursuing policies that were highly focused on macro-economic development as opposed to ones that

promoted the equal distribution of benefits derived from extracting copper and other mineral resources.

In the case of Bougainville, there were two emerging issues. Firstly independence from the rest of PNG, and secondly land rights. For the Ok Tedi project, environmental issues were the main concern. These problems had been given little consideration in terms of addressing them initially by way of policy but were left to re-emerge as bigger problems later on. All the latter projects benefited from the lessons learned by them, and as a result policies such as the Development Forum were established to address benefit sharing in such a way as to assist in addressing landowner frustrations and ensuring the smooth operation of the projects. Furthermore, the Development Forum allowed individual MOAs to be signed between government, developers, and landowners. This was the case with both Lihir Gold and the PNG LNG project, where integrated benefit packages for the former and Licence Based Benefit Sharing Agreement for the latter were signed, and both these highlighted the importance of benefit sharing.

Chapter 4 – SUMMARY AND CONCLUSION

4.1. Introduction

This research report looked at the evolution of benefit sharing agreements and how they have evolved to enhance the lives of people that have been impacted by resource development in Papua New Guinea. It also attempted to answer the following questions:

- (i) What are the lessons learnt , and
- (ii) What are the prospects for the future?

What are the lessons learnt from the previous Benefit Sharing Agreements? In Chapter 2 (The literature review), the research looked at the concept of BSA in the context of its conception internationally and by drawing on comparisons it also discussed the rationale and processes involved in BSA development with key features identified. The report further examined international policies that gave rise to BSAs and its implementation in PNG. Chapter 3 then focused on the individual benefit sharing arrangements that existed in projects that were used to distribute benefits in the PNG mining, oil and gas industries. Discussion in this chapter also covered the application of BSAs in the fisheries sector highlighting how it differed from benefit sharing as it applied to land-based projects. The BSA information in Chapter 2 and 3, enabled the research report to draw from these discussions and provided the basis for considering recommendations or solutions for the future development of BSAs in Papua New Guinea. This allowed the second question posed in this research report to be addressed. The first section in this chapter will summarise the literature reviews followed by highlighting the strengths and weaknesses evident in the development, use and effectiveness of BSAs in international contexts. In the final section some key recommendations are proposed and options presented for the future development of BSAs in Papua New Guinea.

4.2. Summary and results

What are the lessons learnt and the implications from previous benefit sharing regimes that were in place, what were the intentions and the motives for establishment? In seeking answers to these questions, this report established the following key results.

Firstly, there is no accepted universal definition of Benefit Sharing Agreements and its applications vary from sector to sector. There are various definitions that are available to suit individual needs such as those identified by Laird and Wynberg (2008) in this research report.

Secondly, this report provides a clear identification of the characteristics of Benefit Sharing Agreements. These characteristics are as follows: BSAs are negotiated between parties particularly, government and developers of the resource which in most cases are multinational corporations and landowners (Otto, et al., 2006; Sosa & Keenan, 2001). They are legally binding (O'Faircheallaigh, 2011) and recognise property rights (Perman, et al., 2011). Benefit Sharing Agreements should seek to be equitable and aligned with international policies, they should allocate clear and definitive responsibilities and promote development coherence. These characteristics are enforced by components such as employment, training and other financial benefits. While bio-diversity and water use has not been the focus of this survey, it has have provided a useful insight into some extra dimensions in understanding BSAs.

Thirdly, it has been identified that the initial focus of resource development in Papua New Guinea was for economic development and growth. Equitable benefit sharing was a secondary issue. Furthermore, as more resource developments emerge, along with their negative impacts and marginalisation of people, equitable benefit sharing gained momentum and became an issue both in research, discussion, and way forward in terms of government policy development and implementation.

Fourthly, this research report has identified that the legal and policy framework in PNG is not consistent, resulting in the benefits from resource extraction being squandered, benefiting only a few and the continuing marginalisation of many.

Fifthly, from the discussion of the projects in PNG, the report shows that the earlier mines pursued government policy which were overly focused on economic growth and development and neglected environmental and social concerns and as a result contributing later to significant environmental degradation which then became part of BSA. This is evident in the case of the Ok Tedi mine with the establishment of CMCA's to counter excessive demand for compensation by landowners for river pollution.

Finally, the research found that the Development Forum concept established in PNG has enabled stakeholders, particularly the landowners, to have a say in the project especially in providing them with a mechanism to make their needs known. Overall it has been given more significance and has improved the credibility of benefit sharing agreements as an effective tool for promoting the equitable distribution of the benefits received from resource extraction in PNG.

4.3. PNG Benefit Sharing Agreements in the international context, its strengths and weaknesses

The table below shows the strengths and weaknesses of PNG Benefit Sharing Agreements in the international context.

Table 4.3: Strengths and Weaknesses of the BSA

Strengths	Weaknesses
<ol style="list-style-type: none"> 1. Development Forum Concept 2. Memorandum of Agreements 	<ol style="list-style-type: none"> 1. Inconsistent with other laws 2. Not strictly implemented by stakeholders especially government in its undertakings
<ol style="list-style-type: none"> 3. Preferential Treatment Policy 	<ol style="list-style-type: none"> 3. Other genuine persons can be disadvantaged
<ol style="list-style-type: none"> 4. Allowance for infrastructure development 	<ol style="list-style-type: none"> 4. Payment of resources misused and applied incorrectly
<ol style="list-style-type: none"> 5. Development coherence 	<ol style="list-style-type: none"> 5. High cost and risky to venture into business, especially in fisheries
<ol style="list-style-type: none"> 6. Aligned and consistent with international policies 	<ol style="list-style-type: none"> 6. Only applies to international institution funded projects

As can be seen from Table 4.3, there are positive strengths of PNG’s benefit sharing regime. The greatest strength is the concept of the Development Forum, which is described as a unique PNG innovation. The Development Forum encourages the participatory development approach and brings together all stakeholders particularly government, landowners and developers for discussion and negotiation for a better benefit sharing outcome. Another strength of PNG’s BSA is that they are consistent with international practise such as the preferential treatment policy, which is applied in resource development projects. Furthermore, one of the strengths of PNG’s BSA is that they align with the policies of international agencies such as those of the World Bank.

As shown in Table 4.3 above, there are also weaknesses of PNG’s BSA linked to the inconsistencies between domestic laws, they can disadvantage other people, and there have been reported instances of misused financial resources. It was also found that venturing into large operation scan sometimes be a daunting and risky business (especially when dealing with fishery resources), where development coherence is not achievable. Overall, it can be accepted that there are genuine advantages with regard to the development and use of BSAs in PNG.

4.4. Policy options and recommendation for the future

This research report does not provide an exhaustive account in attempting to define benefit sharing agreements. However it should be seen as a step forward in fully identifying and exposing the potential positive aspects of benefit sharing agreements. A full research study should be undertaken to expand the scope of benefit sharing agreements and look at some ideas that were identified in this research report and others, particularly Kwa et al.(2006) who have made an initial attempt in identifying BSA in the biodiversity sector. Some suggestions and scope for the future include:

- A full research project undertaken on the development and implementation of Benefit Sharing Agreements in PNG looking at all aspects including extending to other sectors such as bio-diversity and water use;
- Development of enabling legislation, regulations and supportive frameworks and policies that are consistent with each other, particularly those dealing with compensation or benefit sharing agreements,
- Setting up a national working group or Task force to undertake a review of legislation pertaining to benefit sharing agreements,
- Ensuring that effective measures are put in place to replicate the use of the Development Forum in other sectors and making it compulsory for all resource development in Papua New Guinea.

4.5. The outlook for Benefit Sharing Agreements

To reiterate the research questions that shaped this report, i.e. *‘what are the implications and what are the future prospects of Benefit Sharing Agreements in Papua New Guinea’?*, it is evident that a number of issues associated with past natural resource development projects in PNG have been identified. In fact, previous resource projects did not have any formal benefit sharing agreements, and have concentrated on a few characteristics of BSAs. As Filer (2005) noted, past projects actually worked in favour of the government whose primary interest is to create as much wealth as possible from resource extraction, often safeguarding national interests while ignoring the wishes of landowners. The Bougainville

rebellion in 1988 marked the turning point for the mining sector in PNG, which saw the concept of the Development Forum introduced- the beginning of a new era in resource development in Papua New Guinea. It is on this note that, in order for BSAs to continue and serve the needs of those affected and marginalised, real and concerted efforts should be made to strengthen the Development Forum concept, ensuring that the processes, legal requirements and all other characteristics of BSAs are met therefore making it a tool which can promote the sharing of benefits from resource development in Papua New Guinea.

References:

- Acqorau, T. (2009). Recent developments in Pacific Tuna fisheries: The Palau Arrangement and the vessel day scheme *The International Journal of Marine and Coastal Law*, 24, 557-581.
- African Development Bank. (2003). Involuntary settlement policy Retrieved June 16, 2012, from www.afdb.org/en/documents
- Anderson, G., & Moramoro, M. (2002). *Papua New Guinea mining industry-meeting the challenges*. Paper presented at the PDAC International Convention, Port Moresby.
- Antonio, W., Wagi, M., & Kari, L. (2010). Incorporated land groups. In C. Yala (Ed.), *The genesis of Papua New Guinea land reform program:selected papers from the 2005 national land summit* (Vol. 42, pp. 61-67). Port Moresby: National Research Institute of Papua New Guinea.
- Asian Development Bank. (2000). Special evaluation study on the policy impact of involuntary settlement Retrieved June 16, 2012, from www.adb.org/Publications
- Bachurova, A. (2012). Benefit Sharing Mechanisms Retrieved 4 September, 2012, 2012, from [http://iwawaterwiki.org/.../articles/benefitsharingmechanisms/.](http://iwawaterwiki.org/.../articles/benefitsharingmechanisms/)
- Bainton, A. N. (2009). Keeping the network out of view: mining, distinctions and exclusion in Melanesia. *Oceania*, 79, 18-33.
- Banks, G. (1998). Compensation for communities affected by mining and oil developments in Melanesia. *Malaysian Journal of Tropical Geography*, 29(1), 53-67.
- Banks, G. (1999a). Business as unusual. In C. Filer (Ed.), *Dilemmas of development: the social and economic impact of the Porgera mine 1989-1994* (pp. 222-259). Canberra: Asia Pacific Press, ANU.
- Banks, G. (1999b). The economic impact of the mine. In C. Filer (Ed.), *Dilemmas of development: the social and economic impact of the Porgera gold mine, 1984-1994* (pp. 88 - 127). Canberra: Asia Pacific Press, ANU.
- Banks, G. (2001). Papua New Guinea baseline study. MMDS Report No. 180. International Institute for Environment and Development.
- Banks, G. (2008). Understanding 'resource' conflicts in Papua New Guinea. *Asia Pacific Viewpoint*, 49 (1), 23-34.
- Banks, G., & Ballard, C. (Eds.). (1997). *The Ok Tedi settlement: issues, outcomes, and implications*. Canberra: National Centre for Development Studies, Research School of Pacific and Asian Studies.
- Bedford, R., & Mamak, A. (1977). *Compensating for development, The Bougainville Case* Christchurch: Department of Geography, University of Canterbury, Christchurch.

- Botten, P. (2010). Report to the Australian securities exchange, activities for the quarter ended 31 December 2009 Retrieved 12 June, 2012, from www.oilsearch.com.pg
- Browne, M. W., & Robertson, K. (2010). Benefit sharing agreements in British Columbia: A guide for first nations, businesses, and governments. Victoria, BC V8W 1C4: Woodward & Company, Ecosystem-Based Management Working Group.
- Bun, Y. A., & Bewang, I. F. (2004). *Forest Certification in Papua New Guinea*. Paper presented at the Forest Certification in Developing and Transitioning Societies: Social, Economic, and Ecological Effects, Yale School of Forestry and Environmental Studies, New Haven, Connecticut, USA.
- Burton, J. (1997). The principles of compensation in the mining industry. In S. Toft (Ed.), *Compensation for resource development in Papua New Guinea* (pp. 116-137). Port Moresby: Law Reform Commission of Papua New Guinea.
- Byford, J. (n.d). 'Too little too late' womens participation in Misima mining project Retrieved 12 July, 2012, from <http://www.siteresources.worldbank.org/INTOGMC/.../byfordtoolittletolate.pdf>
- Chamber of Mines and Petroleum. (2009). PNG LNG project update. *Bulletin*, 29(2), 2-17.
- Claxton, K. (1998). *Bougainville 1988-1998*. Canberra: Strategic and Defence Studies Centre, Research School of Pacific and Asian Studies, The Australian National University.
- Connell, J. (1991). Compensation and conflict: The Bougainville copper mine, Papua New Guinea. In J. Connell & R. Howitt (Eds.), *Mining and indigenous peoples in Australasia* (pp. 55-76). Sydney: Sydney University Press.
- Cooper, N. (1992). *The Bougainville land crisis of 1969* (Vol. Occasional Papers Number 1). Christchurch: Macmillan Brown Center for Pacific Studies.
- Dalton, D. L. (1988). Papua New Guinea: Resources, legislation and policy *Australian Mining and Petroleum Association Yearbook, 1988*, 100-123.
- Davison, J. (2003). The Implications of Trade Agreements on Benefits: Planning for Offshore Oil and Gas Development in British Columbia. Victoria: University of Victoria and Ministry of Energy and Mines Partnership.
- Devinder, S. (2004). Selling biodiversity: benefit sharing is a dead concept Retrieved 10/11/2012, from <http://www.gmwatch.org/latest-listing/43-2004/8503-benefit-sharing-is-dead-devinder-sharma-452004>
- Donigi, P. (2009). Benefit sharing agreement and greed Retrieved 10 November, 2012, from <http://www.png-wealth-creation.com/support-files/bsa-and-greed.pdf>
- Dorney, S. (2000). *Papua New Guinea*. Sydney: ABC Books.
- Dorney, S. (2001). *Politics and mercenaries and the Bougainville crisis: the Sandline affair*. Sydney: ABC Books.
- Doulman, D. J., & Terawasi, P. (1990). The South Pacific regional register of foreign fishing vessels. *Marine Policy*, 14(4), 324-332.

- Doulman, D. J., & Wright, A. (1983). Recent developments in Papua New Guinea's tuna fishery. *Marine Fisheries Review*, 45, 47-59.
- ExxonMobil. (2009). Energy for the World - opportunity for Papua New Guinea: Benefit sharing agreement. Port Moresby: Esso Highlands Limited.
- Filer, C. (1990). The Bougainville rebellion, the mining industry and the process of social disintegration in Papua New Guinea. In R. J. May & M. Springgs (Eds.), *The Bougainville Crisis* (pp. 73-127). Bathurst NSW 2795: Crawford House Press.
- Filer, C. (1997). Compensation, rent and power in Papua New Guinea. In S. Toft (Ed.), *Compensation for resource development in Papua New Guinea* (pp. 157-201). Port Moresby: Law Reform Commission of Papua New Guinea (Monograph No 6), Canberra: National Center for Development Studies, Australian National University (Pacific Policy Paper 24).
- Filer, C. (1998). *Resettlement and mining in Papua New Guinea*. Paper presented at the Resettlement policy and practice in Southeast Asia and the Pacific, Port Villa and Manila.
- Filer, C. (2005). The role of land-owning communities in Papua New Guinea's mineral policy framework. In E. Bastide, T. Walde & J. Warden-Fernandez (Eds.), *International and comparative mineral law and policy* (pp. 903-932). Hague: Kluwer Law International.
- Filer, C. (2006). Pacific 2020 background paper: mining and petroleum. Canberra: Australian National University.
- Filer, C. (2011). The new land grab in Papua New Guinea. *Pacific Studies*, 34(2), 269.
- Filer, C., Burton, J., & Banks, G. (2008). The fragmentation of responsibilities in the Melanesian mining sector. In C. O'Faircheallaigh & S. Ali (Eds.), *Earth Matters: Indigenous peoples, the extractive industries and corporate social responsibility*. Sheffield S3 8GG: Greenleaf Publishing Ltd.
- Filer, C., Henton, D., & Jackson, R. (2000). *Landowners compensation in Papua New Guinea's mining and petroleum sectors*. Port Moresby, Papua New Guinea: PNG Chamber of Mines and Petroleum.
- Filer, C., & Imbun, B. (2009). A Short History of Mineral Development Policies in Papua New Guinea, 1972-2002. In R. J. May (Ed.), *Policy Making and Implementation: Studies from Papua New Guinea* (pp. 75-116). Canberra: ANU E Press, The Australian National University.
- Filer, C., & Macintyre, M. (2006). Grassroots and deep holes: Community responses to mining in Melanesia. *The Contemporary Pacific*, 18(2), 215 - 231.
- Fischer, C. (2007). International experience with benefit-sharing instruments for extractive resources. Washington, DC 20036: Resources for the Future and World Bank.
- Forum Fisheries Agency. (1994). Multilateral treaty on fisheries: Treaty on fisheries between certain Pacific Island countries and Government of the United States of America (Vol. 1994). Honiara: Forum Fisheries Agency.

- Gerritsen, R., & MacIntyre, M. (1991). Dilemmas of distribution: The Misima gold mine, Papua New Guinea. In J. Connell & R. Howitt (Eds.), *Mining and indigenous peoples in Australasia* (pp. 35-54). Melbourne: Sydney University Press.
- Gilberthorpe, E. (2009). *Development and industry: a Papua New Guinea case study*.
- Gillett, R., & Cartwright, I. (2010). *The future of Pacific Island fisheries*. Noumea: Secretariate of the Pacific Community
- Golub, A. (2006). *Making the Ipili feasible: Imaging local and global actors at the Porgera gold mine, Enga Province, Papua New Guinea*. Doctor of Philosophy Dissertation, University of Chicago, Chicago.
- Hancock, G. (2002). *Sharing the risks and rewards of mining*. Paper presented at the WMMF Workshop on Mining and People, Papua New Guinea.
- Hanich, Q., Parris, H., & Tsamenyi, M. (2010). Sovereignty and cooperation in regional Pacific tuna fisheries management: Politics, economics, conservation and the vessel day scheme. *Australian Journal of Maritime and Oceans Affairs*, 2(1), 2-15.
- Hanson, D., & Stuart, H. (2001). Failing the reputation management test: The case of BHP, the big Australian. *Corporate Reputation Review*, 4(2), 128 -143.
- Highlands Pacific Pty. (2009). Ramu nickel and cobalt project update Retrieved May 28, 2012, from www.highlandspacific.com
- Highlands Pacific Pty. (2011). Ramu Nickel project -update Retrieved 12 June, 2012, from www.highlandspacific.com
- Hyndman, D. (2001). Academic responsibilities and representation of the Ok Tedi crisis in the Postcolonial Papua New Guinea: Subsistence ecology to political ecology. *The Contemporary Pacific*, 13(1), 33-54.
- International Finance Corporation. (1998). IFC handbook for preparing a settlement action plan. Retrieved June 16, 2012, from www.ifc.org/environ.
- Jackson, R. (1997). Cheques and balances: compensation and mining in Papua New Guinea. In S. Toft (Ed.), *Compensation for resource development in Papua New Guinea* (pp. 105-115). Port Moresby: Law Reform Commission of Papua New Guinea.
- Jackson, R. (2002). Capacity building in Papua New Guinea for community maintenance during and after mine closure. MMSD Report No. 181: International Institute for Environment and Development.
- Johnson, P. (2012). Lode shedding: a case study of the economic benefits to the landowners, the provincial government and the state, from the Porgera gold mine: background and financial flows from the mine (Vol. NRI Discussion Paper 124). Port Moresby: National Research Institute.
- Joint Working Group. (2010). *Possible creation of a sovereign wealth fund*. Port Moresby: Department of Treasury.

- Kailola, P. J. (1995). *Fisheries Resources Profile: Papua New Guinea* (Vol. 45). Honiara: Forum Fisheries Agency.
- Kalinoe, L. (2008). *The Ok Tedi Mine Continuation Agreement: A case study dealing with customary landowners' compensation claims*. NRI Discussion Paper Number 105. Port Moresby: National Research Institute
- Kane, S. (2010). PNG LNG financing a major achievement (pp. 1-13). Port Moresby: Exxon Mobil.
- Kate, K. t., Touche, L., & Collis, A. (1998). *Benefit-sharing case study*. Kew: The Convention on Biological Diversity.
- Keeping, J. (1998). *Thinking about benefit agreements: An analytical framework* (Vol. Northern Minerals Program Working Paper No. 4). Yellowknife: Canadian Institute of Resources Law.
- Kirsch, S. (1997). Is Ok Tedi a precedent? implications of the lawsuit. In G. Banks & C. Ballard (Eds.), *The Ok Tedi settlement: issues, outcomes and implications* (pp. 118-140). Canberra: National Center for Development and Resource Management in Asia Pacific.
- Kirsch, S. (2007). Indigenuos movements and the risks of counterglobalization: Tracking the campaign against Papua New Guinea's Ok Tedi mine. *The American Ethnologist*, 34(2), 303-321.
- Kumoru, L. (2005). *Tuna fisheries report: Papua New Guinea*. Paper presented at the 1st Meeting of the Scientific Committee of the Western and Central Pacific Fisheries Commission, Noumea.
- Kuuluvainen, J., & Tahvonen, O. (1995). The economics of natural resource utilization. In H. Folmer, H. Landisgabel & H. Opschoor (Eds.), *Principles of environment and resource economics* (pp. 106-122.). Aldershot, UK: Edward Elgar.
- Kuwimb, M. (2010). *A critical study of the resource curse thesis and the experience of Papua New Guinea*. Doctor of Philosophy, James Cook University, Brisbane.
- Kwa, E. L., Saulei, S., Gelu, A., Kamene, S., Kouni, J., Kwa, E. P., . . . Henao, D. (2006). *Access and benefit sharing: Policy and legal implications for Papua New Guinea*. Port Moresby: Papua New Guinea Institute of Biodiversity.
- Laird, S., & Wynberg, R. (2008). *Access and benefit-sharing in practice: Trends in partnership across sectors* (pp. 140). Montreal: Secretariate on the Convention of Biological Diversity.
- May, R. J. (Ed.). (2009). *Policy making and implementation: Studies from Papua New Guinea*. Canberra: ANU E Press. The Australian National University.
- McIlraith, J., Robinson, S., Pyrambone, L. L., Petai, L., Sinebare, D., & Maiap, S. (2012). *The community good: Examining the influence of the PNG LNG project in the Hela region of Papua New Guinea*
- Mineral Resources Authority. (2008). *Mineral Resources Authroity corporate plan*. Port Moresby: Retrieved from <http://www.mra.gov.pg>.
- Minjihau, G. (2012). *Ramu Nickel/Cobalt Memorandum of Agreement*. Port Moresby: Minerals Resources Authority.

- Monitoring, D. o. N. P. a. (2010). *Papua New Guinea Development Strategic Plan, 2010-2030*. Port Moresby: National Planning and Monitoring.
- Muri, D. (2013). Landowner: government not fulfilling deals, *PNG Post-Courier*, p. 6. Retrieved from [www://postcourier.com.pg](http://www.postcourier.com.pg)
- Mwayafu, D., & Kimbowa, R. (2011). Benefit sharing options in Collaborative Forest Management: A case study of Rwoho Environmental Conservation and Protection Association and the National Forestry Authority in Uganda. Kampala: RE DD-net programme, supported by the Norwegian Agency for Development Cooperation (NORAD).
- National Strategic Plan Taskforce. (2011). *Papua New Guinea Vision 2050*. Port Moreby: Government of Papua New Guinea.
- Nonggorr, J. (1993). Resolving conflicts in customary law and western law in natural resource developments in Papua New Guinea. *UNSW Law Journal*, 16(2), 433 - 457.
- O'Faircheallaigh, C. (2009). *Corporate-Aboriginal agreements on mineral development: The wider implications of contractual arrangements*. Paper presented at the Rethinking Extractive Industries Conference, York University, Toronto.
- O'Faircheallaigh, C. (2011). Agreements, Treaties and Negotiated Settlements Project Use and Management of Revenues from Indigenous–Mining Company Agreements: Theoretical Perspectives Working Paper Series. Canberra.
- Ok Tedi Mining. (2013). OTML at a glance Retrieved February 6, 2013, from <http://www.oktedi.com/about-us/otml-at-a-glance>
- Otto, J., Andrews, C., Cawood, F., Doggett, M., Guj, P., Stermole, F., . . . Tilton, J. (2006). *Mining royalties: A global study of their impact on investors, government, and civil society*. Washington DC: The World Bank.
- Perman, R., Ma, Y., Common, M., Maddison, D., & McGilvray, J. (2011). *Natural Resource and Environmental Economics* (4th ed.). Essex CM 20 2JE Pearson Education Limited.
- PNG Oil and Gas Act 1998, 53, Petroleum and Energy (2000).
- Power, T. (1997). Landowner compensation: policy and practice. In S. Toft (Ed.), *Compensation for resource development in Papua New Guinea* (pp. 84-93). Boroko: Law Reform Commission of Papua New Guinea, Canberra: Resource Management in Asia and the Pacific.
- Power, T. (Ed.). (2008). *Incorporated land groups in Papua New Guinea* (Vol. Two). Canberra: Australian Agency for International Development (AusAID).
- Prno, J., Bradshaw, B., & Lapierre, D. (2010). *Impact and benefit agreements: Are they working? CIM - 2010- Paper*. Ontario.
- Rosendal, K. K. (2010). Access to and benefit sharing of genetic resources in Cameroon: legal and institutional developments and challenges. In K. K. Rosendal (Ed.), (Vol. 2010, pp. 29). Lysaker: Fridtjof Nansen Institute.

- Sadoff, C. W., & Grey, D. (2002). Beyond the river: the benefits of cooperation on international rivers. *Water Policy*, 4, 389-403.
- Siebenmorgen, P. (2009). *Developing an ideal mining agenda: Impact and benefit agreements as instruments of community development in Northern Ontario*. Master of Arts, The University of Guelph, Guelph, Ontario.
- Simm, K. (2007). Benefit sharing frameworks-Justifications for and against benefit sharing in human genetic research: A report for GenBenefit.
- Siop, P. (2008) From dependency to sustainability: a case study on the economic capacity development of the Ok Tedi mine-area community. *Capacity Development Series*. Mandaluyong City: Asian Development Bank.
- Smagadi, A. (2005). National measures on access to genetic resources and benefit sharing - The case of the Philippines. *LEAD Journal*, 1(1), 50-70.
- Sosa, I., & Keenan, K. (2001). Impacts benefit agreements between Aboriginal communities and mining companies: their use in Canada Retrieved 8 September, 2012, from <http://metisportals.ca/MetisRights/wp/wp-admin/images/Impact%20Benefit%20Agreements%20-%20Mining.pdf>
- Standing, A. (2007). Corruption and the extractive industries in Africa: can combatting corruption cure the resource curse? (pp. 1-28). Pretoria: Institute for Security Studies.
- Strathern, A. (1997). Compensation: or moving swiftly over broken ground. In S. Toft (Ed.), *Compensation for resource development in Papua New Guinea* (pp. 1-9). Port Moresby: Law Reform Commission of Papua New Guinea.
- Teiwaki, R. (1988). *Management of marine resources in Kiribati*. Suva: Atoll Research Unit, and Institute of Pacific Studies of the University of the South Pacific.
- The Editor. (2012, 27 December). Equitable distribution of proceeds, *The National*. Retrieved from www.thenational.com.pg
- Thornstrom, C.-G. (2007). Access and benefit sharing: Understanding the rules for collection and use of biological materials. In A. Kratinger, R. T. Mahoney & L. Nelsen (Eds.), *Intellectual Property Management in Health and Agricultural Innovation: A Handbook of Best Practice*. (pp. 1461 - 1467). Oxford: MIHR.
- Treadgold, M. L. (1971). Bougainville copper and the economic development of Papua-New Guinea *The Economic Record* (pp. 186-202). Canberra: Australian National University, Department of Economics, Research School of Pacific Studies.
- Trebilcock, M. J. (1979). Customary land law reform in Papua New Guinea: law, economics and property rights in a traditional culture. *The Adelaide Law Review*, 9, 191-228.
- Tuodolo, F. (2009). Corporate social responsibility: Between Civil Society and the Oil Industry in the Developing World. *ACME: An International E-Journal for Critical Geographies*, 8 (3), 530-541.
- Tyrer, T. G. (1963). *Nauru and Ocean Island Story*. Wellington: The New Zealand Diary Exporter.

UNESCO. (2009). Country programming document, Papua New Guinea, 2008-2013. Apia: United Nations, Educational Scientific and Cultural Organisation.

Wall, E., & Pelon, R. (2011). Sharing mining benefits in developing countries: The experience with Foundations, Trusts and Funds *Extractive Industries for Development Series # 21*. Washington, DC: World Bank.

Weiner, J. F. (2007). The Foi incorporated land group: group definition and collective action in the Kutubu oil project area, Papua New Guinea. In J. F. Weiner & K. Glaskin (Eds.), *Customary land tenure and registration in Australia and Papua New Guinea: anthropological perspectives*. Canberra: Australian National University E Press.

Witbooi, E. (2008). The infusion of sustainability into bilateral fisheries agreements with developing countries: The European example. *The Marine Policy*, 32, 669 -679.

World Bank. (1999). Involuntary settlement in IDB projects: principles and guidelines. Retrieved June 16, 2012, from www.worldbank.org/documents

Wynberg, R. (2004). Rhetoric, realism and benefit sharing: Use of traditional knowledge of Hoodia species in the development of an appetite suppressant. *The Journal of World Intellectual Property*, 7(6), 851 - 876.

Yala, C., Chand, S., & Duncan, R. (2010). Making land more productive. In C. Yala (Ed.), *The Genesis of the Papua New Guinea land reform program: Selected Papers from the 2005 National Land Summit* (Vol. 42, pp. 11-21). Port Moresby: National Research Institute of Papua New Guinea.