



# The Context of REDD+ in Papua New Guinea

Drivers, agents and institutions

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Photo by Andrea Babon  
Two members of the Adelbert Cooperative Society walk through forests in Madang province, PNG.

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# Abbreviations

3E	Effectiveness, Efficiency, Equity
AusAID	Australian Agency for International Development
BAU	Business As Usual
BRG	Bismarck Ramu Group
CCBS	Climate and Community Biodiversity Standards
CCDP	Climate Compatible Development Policy
CCDS	Climate Compatible Development Strategy
CDM	Clean Development Mechanism
CELCOR	Centre for Environmental Law and Community Rights
CERD	Committee on the Elimination of Racial Discrimination
CfRN	Coalition for Rainforest Nations
CIFOR	Center for International Forestry Research
COP	Conference of the Parties
DEC	Department of Environment and Conservation
EFF	Papua New Guinea Eco-Forestry Forum
ELC	Environmental Law Centre
ENSO	El Niño–Southern Oscillation
EU	European Union
FAO	Food and Agriculture Organization
FCA	Forest Clearance Authority
FCP	Forestry and Conservation Project
FCPF	Forest Carbon Partnership Facility
FIMS	Forest Inventory Mapping System
FLEGT	Forest Law Enforcement, Governance and Trade
FMA	Forest Management Agreement
FORCERT	Forest Management and Product Certification Service
FPCD	Foundation for People and Community Development Inc.
FSC	Forest Stewardship Council
GCS-REDD	Global Comparative Study on Reducing Emissions from Deforestation and forest Degradation
GDP	Gross Domestic Product
GIZ	German International Cooperation
GoPNG	Government of Papua New Guinea
ICDP	Integrated Conservation and Development Project
ILG	Incorporated Land Group
IPCC	International Panel on Climate Change
ITTO	International Tropical Timber Organization
JICA	Japan International Cooperation Agency
LEAF	Low Emissions in Asia's Forests
LFA	Local Forest Area
LLG	Local Level Government
LNG	Liquefied Natural Gas
LULUCF	Land Use, Land Use Change and Forestry
MRV	Monitoring, Reporting and Verification
NCCC	National Climate Change Committee
NFS	National Forest Service
NGO	Non-governmental Organization
OCC&CT	Office of Climate Change and Carbon Trade

OCCD	Office of Climate Change and Development
OCCEs	Office of Climate Change and Environmental Sustainability
OLPLLG	Organic Law on Provincial Governments and Local Level Governments
PES	Payments for Environmental Services
PFMC	Provincial Forest Management Committee
PNG	Papua New Guinea
PNGFA	Papua New Guinea Forest Authority
PNGFIA	Papua New Guinea Forest Industries Association
PNGFRI	Papua New Guinea Forest Research Institute
REDD+	Reducing Emissions from Deforestation and forest Degradation and enhancement of forest carbon stocks
REL	Reference Emissions Level
RIL	Reduced Impact Logging
RL	Reference Level
R-PP	Readiness Plan Proposal
RSPO	Roundtable on Sustainable Palm Oil
SABL	Special Agriculture and Business Lease
SAP	Structural Adjustment Programme
SGS	Société Generale de Surveillance
TRP	Timber Rights Purchase
TWG	Technical Working Group
UNDP	United Nations Declaration on the Rights of Indigenous Peoples
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UN-REDD	United Nations collaborative initiative on REDD
UPNG	University of Papua New Guinea
USD	United States Dollar
USAID	United States Agency for International Development
VCA	Voluntary Carbon Agreement
VDT	Village Development Trust
WMA	Wildlife Management Area

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The research for this report was conducted from May 2010 until September 2011, with final revisions taking place in March 2012. REDD+ is evolving rapidly in Papua New Guinea, making it especially difficult to document and analyse in a comprehensive and timely manner. This document should be viewed as a 'snapshot in time', rather than as a definitive account.

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# Executive summary

This country profile provides an overview of the context for Reducing Emissions from Deforestation and forest Degradation and enhancing forest carbon stocks (REDD+) in Papua New Guinea (PNG). It examines the drivers of deforestation and degradation in PNG, describes the institutional and political-economic context within which REDD+ is being developed, and describes the evolution of a national REDD+ strategy and associated policies and legislation during 2008–2012. It highlights the opportunities and challenges of developing REDD+ policies that can provide climate-effective, cost-efficient and equitable outcomes for PNG.

PNG's forests are globally significant. They cover more than two-thirds of the country's land mass, and, together with forests in the neighbouring Indonesian province of Papua, comprise the third largest tract of intact tropical forest in the world, after the Amazon and Congo Basins.

PNG has been a leading proponent of a REDD+ mechanism under the United Nations Framework Convention on Climate Change (UNFCCC) and has committed to reducing domestic greenhouse gas emissions by around 30% from current levels, or 50% from the business-as-usual (BAU) forecast, by 2030. Over 95% of PNG's greenhouse gas emissions come from land use, land use change and forestry (LULUCF). The government expects REDD+ to be a significant contributor to its emissions reduction and economic growth goals over the next 20 years.

PNG has a particularly unique and challenging context for the design and implementation of policies and mechanisms for REDD+. There has been some mismatch between PNG's leadership of REDD+ at the international level and progress on readiness activities domestically. Early governance and capacity challenges facing the Office of Climate Change, as well as the activities of 'carbon cowboys', tarnished the country's reputation amongst donors and private sector investors (Babon 2011) and raised concerns that PNG was not ready for REDD+ (Greenpeace 2010).

However, PNG has shown a concerted effort to develop an improved governance structure and provide for stakeholder consultation in REDD+ policy processes. The country has developed a Climate Compatible Development Strategy (CCDS), and drafted a national Climate Change and Development Policy and associated legislation.

This country profile examines the opportunities and challenges in developing policies that can provide climate-effective, cost-efficient and equitable REDD+ outcomes for PNG, including:

## **Land tenure and the rights of customary landowners**

PNG's system of customary land tenure, where 97% of the land and virtually all its forests are owned by local landowner groups (rather than by the state) and are regulated by custom, poses unique challenges to the design of a national-level strategy for REDD+. Despite the strong *de jure* rights of customary landowners, there are significant concerns about the impact of REDD+ on customary landowning communities. The government and other project proponents will need to work closely with landowning groups and other organisations to secure the free, prior and informed consent of landowners before REDD+ projects can be developed.

## **Weak governance and corruption**

PNG's logging industry has been the subject of allegations of illegal and unsustainable logging practices for decades. Environmental groups such as Greenpeace have criticised PNG for wanting to continue BAU logging and forest clearing under Special Agriculture and Business Leases (SABLs) while simultaneously seeking international funding for REDD+ (Greenpeace 2010, Turner 2010). Powerful vested interests and client–patron relationships have thwarted many previous attempts at forest policy reform, and REDD+ is likely to face opposition from those currently receiving benefits from activities leading to deforestation and forest degradation.

**Integrated policies and inter-agency coordination**

PNG faces challenges in horizontal and vertical coordination to ensure policy consistency across economic sectors and between different governance scales. Transformation from a BAU trajectory of continued deforestation and degradation is not impossible, but will require the type of political and bureaucratic coordination and commitment that can be difficult to achieve and sustain in PNG.

The outlook for effective, efficient and equitable REDD+ in PNG is not necessarily bleak. REDD+ has the potential to provide new incentives and mobilise the necessary support for the sustainable management of PNG's forests. Many different stakeholder groups support the concept of REDD+ in PNG, including civil society actors, research institutions and donors. Despite some early criticisms, the government has shown genuine progress in developing a governance structure

that can, and is, incorporating the needs and perspectives of multiple stakeholders.

The big question for PNG, as in all countries developing REDD+ strategies, is whether BAU development leading to deforestation and forest degradation can be successfully challenged and an alternative, low-emissions development path implemented. At the moment, it is unclear whether Papua New Guinea has a powerful enough coalition of actors calling for fundamental change to BAU practices in the commercial logging sector (the key driver of forest degradation) or conversion under SABLs (the likely key driver of future deforestation). In addition, the country will need to address the institutional challenges outlined above, in terms of forest governance, cross-sectoral coordination and landowner involvement in decision-making, before REDD+ policies are likely to result in effective, efficient and equitable outcomes on the ground.

# Introduction

In 2005, the governments of Papua New Guinea (PNG) and Costa Rica first proposed the concept of reducing carbon emissions from deforestation in developing countries at the 11th Conference of the Parties (COP) to the United Nations Framework Convention on Climate Change (UNFCCC). In their submission, they noted that both were small nations that would be greatly affected by climate change. They acknowledged the contribution of tropical deforestation to global carbon emissions but suggested that:

‘In the absence of revenue streams from standing forests, communities and governments in many developing countries have little incentive to prevent deforestation... without a more complete market valuation, standing forests cannot overcome the economic opportunity cost associated with their conservation.’ (Governments of Papua New Guinea and Costa Rica 2005)

Since this time, the government of PNG (GoPNG) and its former Prime Minister, Sir Michael Somare, have been leading international advocates for REDD+ mechanisms as part of the UNFCCC. In addition to international advocacy, the country has also been developing a national strategy and policies for reducing emissions from deforestation and forest degradation and enhancement of forest carbon stocks (REDD+).

However, REDD+ has proved to be considerably more challenging than first thought. Those developing REDD+ at both the international and national levels have been caught up with debates over technical issues, funding mechanisms, governance arrangements, land tenure and indigenous peoples’ rights.

The GoPNG has committed to reducing greenhouse gas emissions by around 30% from current levels, or 50% from the business-as-usual (BAU) forecast, by 2030. In 2010, they developed a draft Climate Compatible Development Strategy (CCDS), and, at the time of writing (March 2012), were developing a national climate change policy and associated legislation as well as

undertaking a broad awareness-raising process at the national and provincial levels.

The aim of this country profile is to provide information on the unique national context into which REDD+ is being proposed and developed. It has been developed as part of the Global Comparative Study on REDD+ (GCS-REDD+) being undertaken by the Center for International Forestry Research (CIFOR). The policy component of the GCS-REDD+ is being conducted in 12 countries across Africa, South America and the Asia-Pacific region. The aim of the country profiles is to provide policy makers, practitioners, researchers and donors with information on the opportunities and challenges for REDD+ implementation within unique national contexts to aid evidence-based policy.

The majority of the research for this report was conducted from May 2010 until September 2011, with final revisions taking place in March 2012 before undergoing a review process prior to publication. REDD+ is rapidly evolving in PNG, and, as a result, much of the information and analysis presented may appear dated by the time of publication. This document should therefore be viewed as a ‘snapshot in time’ rather than a comprehensive and up-to-date account of REDD+ development in that country.

The research for this country profile included a desk-top review of relevant documents including peer-reviewed journal articles, ‘grey’ literature, project documents, government policies and legislation. Semi-structured interviews were conducted in May 2011 with 10 key informants representing a number of different stakeholder groups, including government agencies (2), research institutes (2), international and domestic non-governmental organisations (NGOs) (3), donors (1) and the private sector (2). A workshop was held in Port Moresby on 25 November 2011 to present preliminary findings and gain further input for the country profile, and was attended by more than 30 participants representing the stakeholder groups listed above.

This paper is divided into six sections. The first section identifies the drivers of deforestation and degradation in PNG and the climate change mitigation potential of the country's forests. Section 2 describes relevant institutional arrangements, such as forest governance, decentralisation, rights to land and trees, and benefit sharing. Section 3 examines the political

economy of deforestation and forest degradation in the country. Section 4 describes the evolution of REDD+ in terms of actors, events and policy processes. Section 5 considers the potential for proposed REDD+ strategies to provide climate-effective, cost-efficient and equitable outcomes. The final section provides a conclusion.



# 1 Drivers of deforestation and forest degradation

This section provides an overview of current forest cover conditions and past trends in forest cover change, as well as an assessment of the main drivers of deforestation and degradation in PNG.

## 1.1 Forest cover and change over time

The island of New Guinea houses the third-largest tract of intact tropical forest in the world, after the Amazon and Congo Basins. The nation of PNG is located on the eastern half of the island of New Guinea, and also includes a number of adjoining islands, covering a total land area of 46.3 million ha. Over two-thirds of PNG is still covered by forest, the vast majority of which is classified as tropical rainforest.

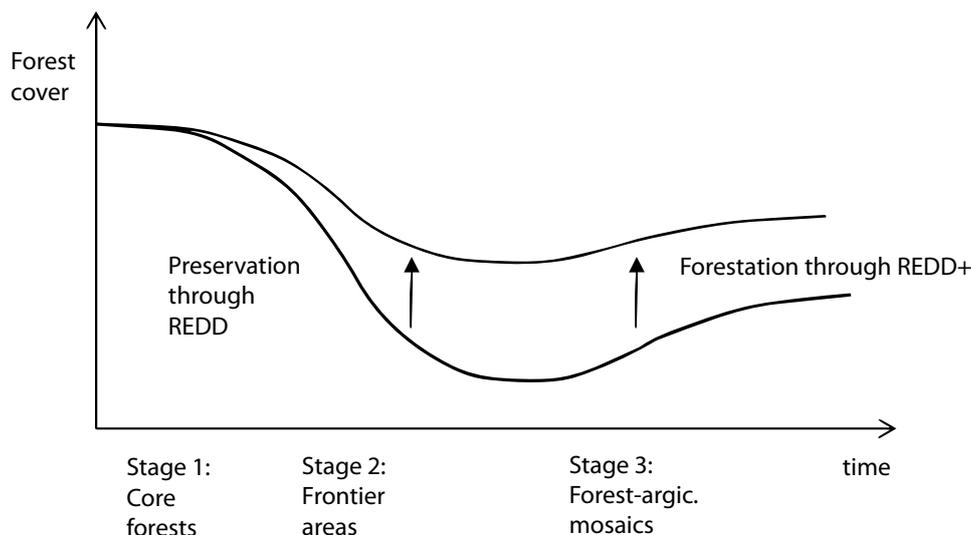
While estimates of forest cover in PNG vary, one of the most recent comprehensive reports suggests that, in 2002, forests covered almost 71% of the country, some 33 million ha – of which 28 million ha was classified as rainforest (Shearman *et al.* 2008). Other estimates of forest cover used by the GoPNG (OCCD 2011) and the Food and Agriculture Organization (FAO 2011) have provided figures of 29 million ha and 25 million ha, respectively.

It is worth noting here that official data and statistics from the GoPNG on forest cover, forest cover change and drivers of deforestation are difficult to access and are often inconsistent, incomplete or outdated. In preparing many of its climate change and REDD+ policy documents, such as the CCDS, the government has relied on figures from the report ‘State of the forests of Papua New Guinea: mapping the extent and condition of forest cover and measuring the drivers of forest change in the period 1972–2002’ (Shearman *et al.* 2008). This study has also been

widely used by other actors, including academics and NGOs. While some aspects of its analysis have been debated in the literature, including the estimate of initial forest cover in 1972 and the rate and nature of forest regeneration following logging and clearing for subsistence agriculture (Filer *et al.* 2009, Shearman *et al.* 2010), it is arguably the most useful estimate of forest cover change and drivers of deforestation *and* forest degradation in PNG currently, and is widely used in this report.

Statistics provided by the GoPNG to the FAO suggest annual deforestation rates of 0.5% (FAO 2011). However, Shearman *et al.*'s (2008) study measuring forest cover change in PNG during 1972–2002 using high-resolution wall-to-wall imagery found an annual rate of deforestation *and* forest degradation of 1.41%. In terms of the forest transition curve (see Figure 1), PNG is most likely located at the beginning of Stage 2. While the country retains significant forest cover there is a considerable threat of deforestation. The relative position of a country on the forest transition curve is likely to have implications for the design and implementation of appropriate REDD+ policies (Angelsen and Rudel 2013).

Almost all of PNG's forests (99%) are owned by customary landowners. The term ‘landowners’ in PNG is used to describe groups or individuals with customary rights to land and resources. The term covers resource rights, as well as land rights, and masks the distinction between group ownership rights and individual use rights (Fingleton 1993: 43, cited in Taylor 1997). In general, forest land remains under customary ownership regardless of any development activity that may occur and cannot be alienated, except under very specific circumstances (further detail is provided later in this section).



**Figure 1. The forest transition with REDD+ policy interventions**

Source: Angelsen and Rudel 2013

**Table 1. Forest classifications**

Forest Category	Description	Area
Production Forests	Timber production areas	15 million ha
Protection Forests	Forests allocated for protection by virtue of their location, topographic constraints, or ecological, cultural or environmental considerations	1.2 million ha
Reserve Forests	Forests that have not yet been classified	13.2 million ha
<b>TOTAL</b>		<b>29.4 million ha</b>

Source: Ministry of Forests 2009

Of the approximately 28–30 million ha of rainforest in PNG, 15 million ha have been classified as production forests, based on their suitability for timber production, including species composition and accessibility (see Table 1). Of these, 12 million ha have already been acquired by the state, with 10 million ha having already been issued with timber permits (PNGFA 2008). This leaves 5 million ha of potential production forest remaining either to be issued with a timber permit (2 million ha) or to be acquired by the state (3 million ha).

Of PNG's total forest area, 1.2 million ha have been set aside as 'protection forests', based on their biological or cultural significance (or other factors such as topography or location). A further 13.2 million ha of forest are yet to be classified and are referred to as 'reserve forests'. They are generally

described as non-commercial forests. PNG also has around 62 000–70 000 ha of plantation forest (Shearman *et al.* 2008, GoPNG 2010a).

The current deforestation 'hotspots' in PNG are forested areas of customary land over which a Special Agriculture and Business Lease (SABL) has been granted. SABLs are essentially land concessions and the land can be cleared for agricultural or other developments. From 1979, when SABLs were first introduced, until 2003, only around 32 000 ha of customary lands were converted under the scheme, largely for oil palm development (Filer 2011). However, a new trend emerged in 2004 with a rapid increase in the granting of SABLs over vast areas of land – sometimes in excess of 100 000 ha (Filer 2011) (see Figure 2). During 2003–2010, around 4.3 million ha of customary land was

leased to private companies under the scheme. A number of observers are concerned that as much as 5.2 million ha of customary land has now been leased to foreigners under the scheme for periods of up to 99 years (Filer 2011). While the stated intention of many of these leases was to clear the forest for oil palm projects, timber harvesting has been the main activity to date, with virtually no oil palm development. There is mounting evidence now that many SABLs are merely logging projects in disguise (Filer 2011) and the leaseholders have little intention of developing the cleared land for agriculture (Greenpeace 2012).

PNG has several mechanisms for allocating land and forests as protected areas. The *National Parks Act* can only designate ‘public land’ as a protected area, which means the land must have been alienated from its customary owners through mutual agreement or compulsory acquisition (Filer 2009). A more culturally appropriate form of conservation has been achieved through the designation of ‘Wildlife Management Areas’ (WMAs) or ‘Conservation Areas’ under the *Fauna (Protection and Control) Act* or *Conservation Area Act*. WMAs account for 90% of PNG’s officially protected areas; however, most of them are very small in size (Filer 2009).

As with forest data, information on protected areas within PNG is inconsistent and varies according to the source used. However, a recent report suggests that PNG has 34 designated protected areas covering 1.29 million ha or 2.8% of PNG’s



**Figure 2. SABLs over accessible commercial forests**

Source: Greenpeace 2012

total land area (Shearman and Bryan 2011). Shearman *et al.* (2008) found that almost half of the country’s forest types are not represented in protected areas, with virtually no upper montane forests under protected area management despite their conservation significance.

Designation as a protected area or WMA does not necessarily guarantee protection, with Shearman and Bryan (2011) finding that in some WMAs there has been up to 99% forest loss over the 30-year period from 1972 to 2002, with average forest loss across the 34 protected areas of 8.8%. Designation as a WMA also does not prevent the state from granting a mining or logging license over the area (Filer 2009). Note that Shearman and Bryan (2011) found that commercial logging had been occurring in protected areas.

Several parts of PNG are considered to be biodiversity ‘hotspots’ due to high levels of species endemism and to accelerating levels of habitat loss as a result of excessive logging, mining and unsustainable farming practices. These include the islands of New Britain, New Ireland, Manus and Bougainville (Conservation International 2007). During the 1990s, a number of international organisations established integrated conservation and development projects (or ICDPs) in PNG, to provide landowners in areas with high conservation values that were facing imminent threat from large-scale logging with an alternative and more sustainable form of development, such as eco-forestry or eco-tourism. In general, these projects suffered significant set-backs largely because they could not compete with the more immediate and tangible benefits that could be provided by logging companies – including roads, schools and health services – and because the project proponents did not fully understand the local cultural context into which the projects were being introduced (McCallum and Sekhran 1997, Ellis 1998, van Helden 2005). This often led to conflict within and between communities, and between communities and ‘outsiders’ (West 2006, Filer 2009).

The challenges faced by ICDPs in PNG are likely to provide important lessons for REDD+, particularly with regard to landowner engagement, benefit-sharing mechanisms and managing community expectations. Community-initiated ‘ground-up’ mechanisms for REDD+ are more

likely to receive local support and provide for effective, efficient and equitable outcomes than are externally driven ‘top-down’ approaches.

## 1.2 Direct drivers of forest cover change

Shearman *et al.* (2009) identified the major causes of deforestation *and* forest degradation over the past 30 years as commercial logging and subsistence agriculture, with lesser causes being fires, plantations and mining. Each of these is discussed in further detail below.

### 1.2.1 Commercial logging

Commercial logging is the main driver of forest cover change in PNG, being responsible for 48.2% of the total forest cover change that occurred during 1972–2002 (Shearman *et al.* 2009). However, commercial logging contributes mainly to forest *degradation*, as opposed to *deforestation* where forests are replaced with other land cover types. A study by Shearman *et al.* (2008) found that a total of 2.9 million ha of forest had been *degraded* by commercial logging operations during 1972–2002, with 0.9 million ha *deforested*. Their study found that 23% of forest land that had been logged was subsequently converted to non-forest cover and that the longer a logging concession was in operation, the greater was the percentage of forest land converted to other land uses, predominately subsistence agriculture. Other observers have noted that, while logging is a major cause of forest degradation, the climatic conditions in Papua New Guinea are such that there is good re-growth soon after logging and the chances of a logged-over area being degraded over a long period of time is minimal (R. Turia personal communication). More research is needed to better understand the dynamics of post-harvest regrowth.

Around 217 commercial logging concessions, including Timber Rights Purchases (TRPs), Local Forest Areas (LFAs) and Forest Management Agreements (FMAs), have been allocated in PNG, covering an area of more than 10.5 million ha (Bun *et al.* 2004). Many of these concession areas are nearing the end of their lives and it has been suggested that the vast majority of accessible and high volume forests in PNG have already been allocated and harvested (Bun *et al.* 2004). Indeed, considering that an estimated 5.2 million ha of land is at threat of conversion under SABLs

(Filer 2011), in reality, there may be no unexploited production forests remaining in PNG. However, a number of large concessions are yet to be harvested – including April Salumei in East Sepik Province and Kamula Doso in Western Province – both of which are, or have been, the focus for REDD+ pilot projects (see Section 4.1 for more detail).

There is a growing interest in Forest Stewardship Council (FSC) certification among some logging companies in the country (P. Dam personal communication; Y. Bun personal communication). Three large-scale logging operations in Papua New Guinea have recently been granted FSC certification. Open Bay Timber, located in East New Britain Province, attained Controlled Wood/Forest Management certification in 2008 and Chain of Custody certification in 2011. Meanwhile, Cloudy Bay in Central Province and Stettin Bay Lumber Company in West New Britain Province both attained Controlled Wood/Forest Management and Chain of Custody certification in 2011. In addition, two NGOs that support community-based forestry have attained group certification – the Forest Management and Product Certification Service (FORCERT) in 2005 and the Foundation for People and Community Development (FPCD) in 2007.

### 1.2.2 Smallholder/subsistence agriculture

The conversion of forests to land suitable for subsistence agriculture has been suggested as the main driver of *deforestation* in PNG, responsible for the deforestation of 3.6 million ha during 1972–2002 (Shearman *et al.* 2009). Approximately 80% of PNG’s population is dependent on subsistence agriculture for food. A traditional system of shifting cultivation is practised, whereby patches of forest are cleared and planted as food gardens and then left fallow for long periods during which time the forest regenerates. At very low densities, gardens remain isolated and revert to forest after cultivation ceases (Marsden *et al.* 2006 in Shearman *et al.* 2008). However, PNG’s rapid population growth of over 2% per annum has increased the demand for food and saleable produce from gardens. Shearman *et al.* (2009) found substantial net deforestation occurring as a result of the expansion of the area used for food gardens as well as the intensification of agriculture within existing gardens. This deforestation was strongly related to population density. However,

there is debate in the literature regarding both the interpretation and the scale of forest loss associated with smallholder/subsistence agriculture and the dynamics of forest regeneration post-clearance (cf. Filer *et al.* 2009, Shearman *et al.* 2010, PNGFA 2011), and clarification of the forest and carbon dynamics associated with smallholder agriculture through further research is needed.

### 1.2.3 Plantations/large-scale agriculture

While forest clearing for agricultural plantations was only a minor driver of deforestation during 1972–2002, which was the focus of the study by Shearman *et al.* (2008), commercial plantations, particularly oil palm, have been expanding since this time. The GoPNG plans for substantial growth in the annual production of PNG's four major export crops (palm oil, coffee, cocoa and copra) over the next 20 years, with commercial agricultural plantations estimated to grow by 5–6% annually (GoPNG 2010a).

In addition, the sudden increase in the number and size of SABLs, which allow clear felling ostensibly for conversion to other land uses, is cause for significant concern (see Section 1.1). In 2011, SABLs were responsible for almost 20% of PNG's log exports – up from 0% only 5 years previously. Official information on the size and location of these areas is difficult to come by, but there are now thought to be around 72 SABLs covering approximately 5.5 million ha, or 12% of PNG's total land area (Filer 2011, Greenpeace 2012). As such, clearing for, or under the guise of, agricultural plantations may become a much more significant driver of deforestation in the future.

### 1.2.4 Fire

There are only a few studies, and some debate in the literature, on the relationship between fire and deforestation in PNG (Corlett 1987, Shearman *et al.* 2008, Filer *et al.* 2009, Shearman *et al.* 2010). The study by Shearman *et al.* (2008) estimates that fire was responsible for 4.4% (347 079 ha) of forest loss during 1972–2002, and was a significant driver of deforestation at high altitudes. However, processes of forest regeneration post fire are not well understood, leading to uncertainty in the amount of forest that is permanently lost due to fire (Corlett 1987, Filer *et al.* 2009). Hunting and land clearing for subsistence agriculture frequently involve burning, which can spread into adjacent forest areas, particularly where dense forests have

been opened up and fragmented by agriculture or commercial logging operations (Shearman *et al.* 2009, Bingeding 2011a).

There is also a strong link between natural climate patterns and fire. PNG is particularly prone to fires during El Niño–Southern Oscillation (ENSO)-induced droughts (Johns 1989, GoPNG 2010a). In terms of REDD+, frequent fires will reduce the amount of carbon stored in the country's forests, with a recent study suggesting that frequent disturbance by fire has contributed to lower levels of carbon stored in PNG's forest when compared with global tropical forest averages (Fox *et al.* 2010).

### 1.2.5 Mining

As with the other drivers of deforestation, there is some inconsistency in data on the impact of mining on forests. The study by Shearman *et al.* (2008) found that the area of forest *directly* affected by mining was only 0.2% of the 1972 total forest area. However, mining can have significant off-site impacts due to the release of mine tailings (waste rock, sediment, etc.) into river systems, which can affect much larger areas than the mine site itself. For example, it is estimated that tailings discharged from the Ok Tedi mine may eventually affect 256 900 ha of forest (Marshall and Rau 1999). Indeed, one report suggests that mining (including the forest dieback resulting from the Ok Tedi mine) may be a more significant driver of *deforestation* than logging, commercial agriculture or fire (UNFCCC 2006).

## 1.3 Spatial distribution of drivers of deforestation and degradation

Logging is the main driver of deforestation and degradation in lowland forests, while subsistence agriculture is the main driver in the highlands region. PNG's lowland rainforests in coastal and island regions have historically experienced the highest rates of deforestation and degradation, largely as a result of easy accessibility and the suitability of these forests for both mechanised logging and agricultural expansion (Shearman *et al.* 2008). Lowland rainforests in coastal regions are expected to continue to be preferentially targeted for commercial logging, plantation development and clearing for subsistence agriculture (Shearman and Bryan 2010). The majority of SABLs (see Section 1.1) are also located in lowland areas and

are scattered throughout most regions. The largest SABL totalling 790 800 ha is located in Western Province (although this has not been developed to date), while the island of New Britain has the largest proportion of its land area under SABLs (Filer 2011, Greenpeace 2012).

#### 1.4 Actors and discourses driving deforestation and forest degradation

The main actors involved in deforestation and forest degradation in PNG have previously been described as an ‘unholy alliance of foreign loggers, domestic politicians and wayward public servants’ (Filer and Sekran 1998). Although coined in the late 1990s, this ‘unholy alliance’ is still relevant today to understand the main actors behind deforestation and degradation, their interests, and their influence on forest policy in PNG.

PNG’s commercial logging industry is dominated by a small number of foreign-owned companies. These companies have come under repeated criticism for unsustainable and illegal logging, with little interest or investment in sustainable forest management in the country (Forest Trends 2006, ODI 2007a). The largest of these companies is Rimbunan Hijau, which is headquartered in Sarawak, Malaysia. Rimbunan Hijau operates through a system of subsidiary companies in PNG, making it difficult to calculate their exact market share, although it has been estimated at more than 45% (Bun *et al.* 2004). Civil society organisations have expressed concern that the logging industry wields excessive influence in PNG through political donations, public sponsorship, lobbying and media ownership (CELCOR & ACF 2006). For example, Rimbunan Hijau owns the largest-selling daily newspaper in PNG, *The National*, which is perceived by many as biased in its reporting on forestry issues (Jackson 2011, Babon *et al.* 2012).

The PNGFA is the government agency responsible for overseeing commercial forestry operations. It faces significant challenges in monitoring and enforcing forestry laws and regulations (see Section 2.1.3 for more details). One of these challenges includes corruption amongst departmental officers (Filer and Sekran 1998), which their own minister described as being ‘in the pockets’ of logging companies (Transparency International 2009). The country’s rugged

geography also constrains transportation and communication systems, making conditions more difficult for the PNGFA, as a regulatory agent, to effectively monitor logging activities in the country. PNGFA officers are often at the mercy of the logging companies to perform their duties, such as by providing transportation to inspect logging operations.

Many politicians have interests or close relationships with logging companies, thereby raising the possibility of conflicts of interest and undue influence (Filer and Sekran 1998, Forest Trends 2006). While the government is not directly involved in logging activities (as is the case in other countries where government businesses or other entities, such as the military, may be involved in logging), politicians have sometimes used their positions as ‘resource owners’ (Filer and Sekran 1998) to support and push for forestry projects to support their political careers. Such projects may not be part of an official national forestry plan, but, through political pressure, the PNGFA may be forced to sanction such projects. This is thought to be happening with the granting of Forest Clearance Authorities (FCAs), leading to increased deforestation, and forest clearing under SABLs (Filer 2012b, Greenpeace 2012). Politicians have also passed or amended forest laws and policies which accelerated deforestation and degradation, seemingly to suit the political leaders, particularly ministers, of the day.

The PNG Forest Industries Association (PNGFIA) is the peak industry body representing the interest of logging companies and the forestry sector in the country. The PNGFIA has attempted to counter what they perceive to be incorrect accusations of unsustainable and illegal logging made by environmental and other organisations. The PNGFIA and the Rimbunan Hijau logging company have used the media widely to present the findings of commissioned studies into the economic benefits of logging and have provided an alternative narrative to that promoted by international and domestic environmental groups. A key argument used by the forestry industry in their campaign has been that restrictions on the forestry sector will condemn PNG to poverty. A key source of information for the logging industry’s campaign has been an international consulting and lobbying firm, International Trade Strategies Global (ITS Global), which has

come under criticism for bias and inaccuracies in its research (Laurance *et al.* 2010). In its broader campaign on REDD+, ITS Global, and its associated not-for-profit organisation, World Growth, have suggested that REDD+ will reduce economic growth and impoverish developing countries (World Growth 2011). The logging industry's counter-campaign has spread from forestry to the oil palm sector recently, particularly as Rimbunan Hijau looks to expand its business interests in the country. A similar discourse to that used in the forestry sector is being applied to the oil palm sector, with a recent report by ITS Global suggesting that limiting the area of land available for oil palm expansion would significantly hurt the economy of PNG and have a negative impact on the country's efforts to alleviate poverty (ITS Global 2011).

However, the existing oil palm industry, through its representative body – the Papua New Guinea Palm Oil Council – has been keen to distance itself from new entrants to the sector, particularly those claiming oil palm developments as part of SABLs. PNG is not a large producer of palm oil when compared with neighbouring Indonesia or Malaysia, and so has sought niche markets to gain a premium price for its products, mainly through certification through the Roundtable on Sustainable Palm Oil (RSPO). New market entrants and potentially unsustainable practices, such as clearing high conservation value forest to make way for plantations, may threaten this market position (Filer 2012b).

## 1.5 Underlying drivers of deforestation and forest degradation

### 1.5.1 National development goals and a natural resource-reliant economy

The GoPNG relies heavily on natural resource revenue for the socio-economic development of the country. Foreign exchange earned through the export of forest products is vital for the national economy and contributes around 8% of gross domestic product (GDP). However, there is enormous disparity in the distribution of national wealth and service provision throughout the country. PNG's social indicators are among the worst in the Pacific region and it is generally felt that PNG, as a whole, has not benefitted as much as it should have from its forest resources.

While a certain amount of deforestation and forest degradation is inevitable as PNG pursues economic and social development, uncontrolled natural resource development activities, largely as a result of poor governance, have led to greater than necessary deforestation and forest degradation. There is general agreement that current rates of commercial timber harvesting in PNG are unsustainable (Bun *et al.* 2004, Shearman *et al.* 2009, Fox *et al.* 2010).

Several types of dynamics increase the rate of deforestation and degradation in PNG, including conflicting or inadequately enforced sectoral policies or regulations. For example, forests designated as production forests are meant to be sustainably managed and selectively harvested at a rate that would allow for future cutting cycles. In practice, however, these areas are often over-harvested or degraded to a point where they are susceptible to deforestation from fire or conversion to other land uses, including use for subsistence agriculture by the customary landowners.

### 1.5.2 Population growth and low socio-economic indicators

PNG is experiencing rapid population growth of around 2% per annum, and this is placing increasing demands on the country's forests. Small-scale commercial forestry activities and community oil palm plantations are increasing in number as families and communities pursue social and economic development to increase their standard of living. Demands for basic social and economic services also lead to increased urban migration, resulting in expansion of urban settlements and associated clearing of surrounding forests. Population growth is also thought to increase the pressure on forests to be converted for subsistence agriculture. However, the link between population growth and clearing for subsistence agriculture is not well understood, and there is also evidence that population growth encourages the intensification of subsistence agriculture, in addition to clearing new forest land (Filer and Sekran 1998, Bourke and Allen 2009).

The low level of development in many rural areas is seen as a significant factor in driving policy to seek early returns from forest development (ODI 2007a). Logging and mining companies

have become important providers of rural infrastructure, including health care facilities, schools and roads in remote areas where the government does not have the resources to provide basic services. It is part of the government's development strategy, through the PNGFA, to use logging companies to provide such services. Provision of these services becomes part of timber permit agreements and conditions. However, in many cases logging companies have not met these permit conditions, leaving local communities without the promised infrastructure or services, or suffering environmental effects such as polluted rivers. Timber companies have often avoided penalties for not meeting permit conditions, largely due to a lack of enforcement capacity and weak governance, resulting in corruption (FoE Japan/GEF 2011).

### 1.5.3 Poor forest governance and land use planning

PNG does not have a national land use plan, and there are no clear policies for allocating land within the country for different purposes (logging, agriculture, conservation, etc.). This is partly a result of the high proportion of land under customary land tenure, but also due to a lack of clear responsibility for land use planning within the government. While the PNGFA and Department of Agriculture and Livestock each have their own plans, there is little communication and coordination between them (INA/IGES 2010).

Corruption is widespread within PNG and is considered endemic within the forestry sector (Ayius and May 2007, Transparency International 2009, 2011, Laurance *et al.* 2011). In 2010, PNG ranked 154 out of 178 countries in Transparency International's 'Corruption Perceptions Index', which ranks countries by the degree to which corruption is perceived to exist among public officials and politicians, making it amongst the most corrupt in the world (Transparency International 2010). Within the forestry and land-use sector, corruption is characterised by bribery, non-compliance with regulations, violations of landowners' rights, and political lobbying to influence decision-making (CELCOR & ACF 2006, Transparency International 2009, 2011).

Some commentators suggest that traditional cultural norms such as reciprocity and patronage

systems within kinship or language groups, known as *Wantok* (literally 'one-talk'), may be conducive to corruption in the context of a modern society (Nonggorr 2003 in Ayius and May 2007). The benefits from logging are often concentrated in the hands of political elites, who are accused of colluding with foreign logging companies and using their positions for personal gain rather than acting in the local interest (Filer and Sekran 1998, Laurance 2010). Taylor (1997) suggests another reading, which is that benefits (salaries, housing, travel, vehicles and 'entertainment') to local elites such as landowner company directors may be seen as 'custom-sanctioned rewards for leadership'. Either way, elite capture of the benefits from forest resources is likely to be a challenge for REDD+.

### 1.6 Monitoring forest cover change

There is a lack of complete, consistent and up-to-date data on forest cover in PNG. A national forest inventory has not been conducted, despite being a requirement for developing a National Forest Plan, as stipulated under the *Forestry Act 1991*. A Forest Inventory Mapping System (FIMS) was developed in the mid-1990s and is regarded as the official national forest inventory system; however, it is considered to be inadequate for use at an operational scale, and is unreliable and outdated (Kelatwang *et al.* 2002, Shearman *et al.* 2008, PNGFA 2010, FoE Japan/GEF 2011). Instead, the GoPNG and many other stakeholders utilise figures provided by Shearman *et al.* (2008) (see Table 2 and Table 3).

Currently, only those areas of interest for timber production purposes are monitored for forest cover change and compliance with the Logging Code of Practice. Under the *Forestry Act 1991*, it is the responsibility of the National Forest Service (NFS), which sits under the PNGFA, in collaboration with the Department of Environment and Conservation (DEC), to monitor logging operations. Within the NFS, the Field Services Directorate is responsible for field inspections and monitoring of all field operations and activities. However, a review undertaken by the International Tropical Timber Organization (ITTO) in 2007 concluded that monitoring of commercial forestry operations is not executed properly 'due, among other factors, to a shortage of personnel and inadequate logistics' (ITTO 2007: v). The review also noted that monitoring for compliance with environmental protection and biodiversity conservation laws by

DEC is even more inadequate, with too few DEC field staff at the provincial level and inadequate facilities to perform their duties satisfactorily (ITTO 2007).

Areas outside production forests have generally only been monitored for research interests, although this is starting to change with the focus on REDD+.

## 1.7 Climate change mitigation potential of Papua New Guinea's forests

Over 95% of PNG's greenhouse gas emissions come from LULUCF – an estimated 110–126 Mt CO<sub>2</sub>e in 2010 (GoPNG 2010a). Commercial logging has been the largest source of greenhouse gas emissions historically – responsible

**Table 2. Responsibility for monitoring forest cover change for different drivers of deforestation and degradation**

Driver	Contribution to deforestation and degradation (Shearman <i>et al.</i> 2008)	Responsibility	How monitored
Logging	48.2%	The National Forest Service (NFS) under the Papua New Guinea Forest Authority (PNGFA)	Field inspections and monitoring Aerial photography
Subsistence agriculture	45.6%	N/A*	N/A
Fire	4.4%	N/A	N/A
Plantations	1.2%	N/A	N/A
Mining	0.6%	N/A	N/A

\* not applicable/information not available

**Table 3. Available data on the drivers of forest cover change**

Author	Year	Organisation	What	Notes
Food and Agriculture Organization (FAO)	2009	FAO	State of the world's forests	There is some debate over the accuracy of these figures. Shearman <i>et al.</i> (2010) state that FAO (1990–2000) and FAO (2000–2005) deforestation rates of 0.5% are an average over 1975–1996 and 'were derived from data sources created at too coarse a scale to adequately detect fine scale change, such as that occurring as a result of subsistence agriculture and logging expansion'. Meanwhile Filer (personal communication) noted that these were a projection from the rate established by Hammermaster and Saunders (1995) (below).
Shearman <i>et al.</i>	2008	University of Papua New Guinea (UPNG)	The state of the forests in PNG	Arguably the most comprehensive and up-to-date assessment of forest cover change during 1972–2002
Hammermaster and Saunders	1995		Forest Inventory Mapping System (FIMS)	Shearman and Bryan (2010: 3) noted that the FIMS mapping of forest boundaries was 'coarse, often consisting of "forest complexes" containing a mixture of forest and other land types'. For this, and other reasons, they suggest it is not possible to accurately detect forest change.

for 41% of emissions in 2001 (Bryan *et al.* 2010). Emissions from land clearing for subsistence agriculture are also a significant contributor (GoPNG 2010a).

In 2010, Papua New Guinea released a draft CCDS (GoPNG 2010a). The CCDS projected that greenhouse gas emissions based on a BAU scenario would result in a 40% increase by 2030, largely as a consequence of deforestation from large-scale agricultural leases and subsistence and smallholder agriculture. However, the figures used in the CCDS have been questioned by the international environmental group Greenpeace, as they may overestimate the amount of future forest clearing (i.e. setting the BAU too high which may allow claims to be made for reducing emissions that may never have happened) (Greenpeace 2010, 2011). Filer (2010) also suggests that there are supply-side constraints that the BAU projections have failed to consider.

In February 2010, the GoPNG made a voluntary commitment to the UNFCCC, under the Copenhagen Accord, to reduce greenhouse gas emissions by 30% from current levels, or 50% from the BAU forecast, by 2030. The majority of these reductions are to come from the LULUCF sector (GoPNG 2010b).

The CCDS identifies reduced impact logging (RIL) and improved management of secondary forests as providing the greatest opportunities for emissions abatement. According to the CCDS, the theoretical cost of these abatement measures is estimated at approximately USD5.6 per t CO<sub>2e</sub>. However, there has been some suggestion that these figures may have been based on flawed 'cost curves' produced by international consulting firm McKinsey & Co., which may skew the relative costs of different emission reductions mechanisms making, for example, RIL, appear more attractive (Dyer and Counsell 2010, Greenpeace 2011). Further, it has been suggested that a carbon price greater than USD10 per t CO<sub>2e</sub> is likely to be required in order for REDD+ to compete with other land uses such as logging and oil palm development (Hunt 2010); and that activities such as RIL and secondary forest management may fail to meet any additionality criteria applied to REDD+ financing, as these activities are already required under PNG's forestry regulations

(Bingeding 2011b). Conservation of primary forests receives somewhat less attention as a potential mechanism for REDD+, although the government has initiated one pilot REDD+ project based on forest conservation in the April Salumei Forest Management Area. The CCDS largely dismisses opportunities for reducing forest loss caused by subsistence agriculture because of the difficulties of realising changes in agricultural practices (GoPNG 2010a).

In terms of monitoring and reporting greenhouse gas emissions from deforestation and degradation, capacity in PNG is currently low (LTS International 2008), although the country is currently receiving international support and capacity building in this area. UN-REDD funding is being used to develop a national Monitoring, Reporting and Verification (MRV) system. The Japan International Cooperation Agency (JICA) is providing funding to the PNGFA for training and capacity building in remote sensing and Geographical Information Systems. The country is also receiving support from other donors, including AusAID, the European Union, and the German International Cooperation (GIZ).

A national forest inventory has not been conducted in PNG, although the PNGFA has been working to build capacity in this area and recognises the urgent need for such an inventory (PNGFA 2010). A Forest Inventory Mapping System (FIMS) was developed for PNG in 1995 (Hammermaster and Saunders 1995) and is currently used by the PNGFA, although this has some limitations (see Section 1.6). The Papua New Guinea Forest Research Institute (PNGFRI) also maintains a system of 135 permanent sample plots to collect timber inventory data.

Data on forest biomass and carbon stocks in PNG are still at a nascent stage, although several research groups are currently working in this area. Bryan *et al.* (2010) produced the first study to integrate country-specific measurements of biomass stocks and losses with high resolution forest mapping, and found that average biomass in unlogged forests was 358 t/ha, and for logged forests was 161 t/ha. However, they also noted a degree of uncertainty in these estimates due mainly to the lack of biomass data in unlogged forests, and suggested expanding the system of permanent sample plots

and using more randomised sampling (particularly to include unlogged forest). Data from the PNGFRI sample plots were used by Fox *et al.* (2010) to estimate above-ground carbon stocks at 120 MgC/ha in primary forest and 90.2 MgC/ha in selectively harvested forests (the authors note that this is considerably lower than the global average for tropical forests, and note a degree of uncertainty).

Other commentators have noted the difficulties of MRV of emissions from RIL (Pinard and Putz 1996, Greenpeace 2010) and robust methodologies will need to be developed to monitor the degree to which RIL can provide genuine emissions reductions.

In summary, PNG's forests can make an important contribution to global climate change mitigation efforts. However, despite PNG's leading role in promoting REDD+ at the international level, domestic conditions pose significant challenges for the country to achieve effective, efficient and equitable emissions reductions. REDD+ will involve a significant shift from BAU development activities that cause deforestation and forest degradation, and will require investments in human and technical capacity to monitor and report on emission reductions. It is unclear if there is sufficient political support to effectively challenge powerful vested interests promoting BAU and build the necessary institutional structures to achieve permanent emissions reductions.

# 2 Institutional environment and distributional aspects

This section examines governance conditions and institutional arrangements of relevance to REDD+ in PNG, including international agreements, forest governance (illegal logging, rule of law, corruption and elite capture), political systems, decentralisation policies, land tenure, benefit sharing and the rights of customary landowners.

## 2.1 Forest governance in PNG

### 2.1.1 International agreements

PNG is a signatory to a number of international agreements relevant to forest governance. PNG ratified the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) in 1975 and the Convention on Biological Diversity (CBD) in 1993, and is a member of the United Nations Forum on Forests (UNFF). The country has not been active in the European Union's Forest Law Enforcement, Governance and Trade (FLEGT) initiative to date, but has recently participated in initial discussions regarding a voluntary partnership agreement with the EU as part of FLEGT (C. Bourse personal communication).

PNG ratified the United Nations Framework Convention on Climate Change (UNFCCC) in 1993 and the Kyoto Protocol to the UNFCCC in 2002. PNG is a founding member of the Coalition for Rainforest Nations (CfRN) and has advocated strongly for the inclusion of REDD+ under the UNFCCC. PNG was the first co-chair of the REDD+ partnership, which was launched in May 2010 as 'an interim platform for interested governments to scale up REDD+ actions and finance'.

PNG has a complicated history of involvement with international efforts that promote improved forest governance. International involvement

in, and monitoring of, forest governance in the country has often been met with hostility and a lack of cooperation within some government quarters. Evidence of this can be found in several government-initiated or -approved processes that were subsequently cancelled, including the World Bank's Forestry and Conservation Project in 2005 (see Section 3.1 for more details) and the European Union-funded Dialogue on Forestry in 2006, which was aimed at identifying options to enable a sustainable forestry industry in the country. However, the emergence of REDD+ does seem to have opened a new window for international engagement on forest governance in PNG, bringing a mix of existing and new actors to the table.

### 2.1.2 Domestic political system

PNG is a land of enormous diversity, with over 800 different language groups and even more tribes and clans with their own unique political systems. The majority of Papua New Guineans still live in traditional villages and their daily lives are governed by local relationships and cultural norms, rather than the state.

PNG was colonised by both Germany and Britain in the late 1800s. In the early 1900s, British New Guinea came under the administration of the newly independent Australia, and, at the outbreak of the First World War, Australia also took over German New Guinea. The former colonial territories became an Australian protectorate with Australian administrators until PNG gained Independence in 1975.

PNG is a multiparty parliamentary democracy. The introduced Westminster-style system of government has joined with pre-existing traditional social and political structures, such as 'big man' politics, which have remained strong in most parts of PNG. A major challenge for good governance in

PNG has been reconciling the myriad traditional local political systems based on custom and culture with the Westminster-style system of government that was inherited at Independence (Allen and Hasnain 2010, Gelu 2010).

PNG has a 'first past the post' electoral system (although limited preferential voting was introduced in the 2007 national election) and the generally large numbers of candidates that contest each election often mean that candidates are elected with a very small proportion of the total vote. Candidates often represent 'clan-based voting blocks' and effectively pay for the voting patronage of the constituent, leading to a patron-client relationship (Allen and Hasnain 2010). There is a high turnover in elected officials, with around 50% only serving one term before being replaced, meaning that successful candidates have limited time to provide benefits to constituents/clients, and, as a result, they prefer policies that provide short-term benefits for their clients, rather than longer-term benefits for a broader constituency (May 2009). Patronage politics together with ethno-linguistic fragmentation have been suggested as underlying reasons behind the challenges PNG has faced in transforming its vast natural resource wealth into broad-based improvements in social indicators (Allen and Hasnain 2010).

Since Independence, there have been 13 coalition governments and 7 different prime ministers in PNG. No single political party has ever received enough votes at a national election to govern in their own right, leading to the formation of large and unruly coalitions based less on shared ideology and more on gaining or maintaining power (Gelu 2010). There have been regular votes of no confidence, which have helped shorten the life span of governments from 5 years to an average of only 2.5 years, and have marked a great deal of political instability in the executive branch of government, affecting the ability of governments to concentrate on delivering services to the people (Gelu 2010).

PNG's public service has limited capacity to perform its roles effectively and efficiently. Despite the many well-educated, professional and committed staff, the public service suffers from under-resourcing and has faced constant political interference and nepotism, resulting in a high level

of politicisation in appointments to public service positions (May 2009, Gelu 2010). May (2009) suggests that ministers and senior public officials play an 'unusually influential' role in policy implementation in PNG and that the rapid turnover of ministers and senior bureaucrats and frequent shifts in policies create a lack of stability that makes commitment to a given set of policy actions difficult to maintain (May 2009).

According to Gelu (2010), PNG's third arm of government, the judiciary, has been the most effective arm and has remained independent and free from undue influence, although there is a backlog of cases waiting to be heard before the courts.

PNG's complex political system is likely to have significant implications for the steady development of REDD+ policies and strategies. REDD+ has become highly politicised in PNG and policy processes have already been affected by changes in government, relevant ministers and senior bureaucrats.

### 2.1.3 Forest governance in practice

Despite commonly cited figures suggesting that anywhere from 70% to 90% of logging in PNG may be illegal (The World Bank 2006, Greenpeace 2008), the extent of illegal logging in PNG depends on the definition that is used (ITTO 2007). Illegal logging in PNG is generally characterised by non-compliance with relevant legislation and due process or tax avoidance mechanisms, such as transfer pricing, rather than as rampant, uncontrolled logging. In 1994, the GoPNG contracted Société Generale de Surveillance (SGS) to provide independent monitoring of all log exports from the country. This has reduced, but is unlikely to have eliminated, the level of transfer pricing and other mechanisms for avoiding paying royalties and taxes (ITTO 2007).

The forest industry, through its representative body the PNGFIA, defines illegal logging as any activity in contravention of the laws and/or regulations of the nation and claim that 'legal export certificates signify legal trade', effectively absolving individual logging companies of responsibility as long as they have obtained the relevant permits or licenses (PNGFIA 2010). However, a series of independent

reviews into the logging industry, commissioned by the GoPNG and the World Bank throughout 2001–2005 (Forest Trends 2006: 2), found that:

‘...although all timber harvesting operations may be officially licensed, there are serious issues of legal non-compliance at almost every stage in the development and management of these projects. For these reasons the majority of forestry operations cannot credibly be characterized as complying with national laws and regulations and are therefore “unlawful”’.

At Independence, logging could be conducted under two different forestry laws – the *Forestry Act*, whereby only the state could acquire timber rights from customary landowners (who received royalties at a prescribed rate and had no legal rights over which logging company held the timber permit, what infrastructure was built or the rate timber was harvested) and the *Forestry (Private Dealings) Act*, which allowed customary landowners to establish ‘landowner companies’ that could acquire timber harvesting rights from the landowning group and on-sell the rights to a foreign logging company with little state oversight (Taylor 1997, Filer 2009). These laws essentially provided two different models for acquiring timber rights from the customary landowners – either landowner–government or landowner–company. The 1989 Barnett Inquiry (see Section 3.1 for more details) recommended greater state planning and control over the forestry sector, and the *Forestry (Private Dealings) Act* was repealed.

Under the new *Forestry Act 1991*, the state has a monopoly on the right to enter into a FMA with landowners. Under the Act, the PNGFA can negotiate an FMA that allows them to acquire the management rights to a ‘future production forest’ from the customary landowners and then allocate the timber harvesting rights to a logging company (Filer 2009). The ‘resource acquisition’ process has four main steps (forest resource inventory, landowner awareness programme, land group incorporation and FMA); and the ‘resource allocation’ process has nine main steps (development options study, project guidelines, call for proposals, selection of developer, feasibility study, project agreement, environmental plan, timber permit and harvest allocation) (Filer 2009). This combined process is generally referred to as the ‘FMA process’. If landowners are unable to

negotiate an acceptable FMA with the government, then they are essentially unable to have commercial logging operations on their land.

PNG’s forest regulations are considered to be overly complex, which may be encouraging logging companies to take short cuts (Filer *et al.* 2009; ITTO 2007). According to the 2007 ITTO review, the present regulations, which include the 29–34-step process to approve an FMA and grant timber permits, appear beyond the current administrative capacities of PNGFA and DEC (ITTO 2007). It is felt that excessively complex procedures that are difficult to implement create additional incentives for concessionaires to cut corners and for some public servants and local landowners to be engaged in ‘rent-seeking behaviour’ (ITTO 2007).

To enable small-scale timber harvesting without having to go through the lengthy and complex FMA process, the *Forestry Act 1991* included a provision for Timber Authorities (TAs). TAs were introduced expressly for small-scale timber harvesting but were increasingly being misused, and, in response, amendments to the *Forestry Act* were passed in 2000 to impose stricter conditions and prevent abuse (C. Filer personal communication). However, further amendments to the *Forestry Act* were made in 2007 to avoid these stricter conditions and enable what became known as Forest Clearance Authorities (FCAs), which allowed forest clearance for all purposes, and are now used extensively on land that has been granted a SABL. In the past decade, no new FMAs have been approved and there is increasing evidence that logging companies are avoiding the entire FMA process and are instead using SABLs and the less rigorous FCA process as a ‘back door’ for logging.

Requirements to consult with customary landowners, and other members of the community, are provided for in key legislation governing land use planning and decision-making. Customary landowners must be consulted and must give their informed consent for any developments on their land (Ase 2011b). A process of social mapping and land investigations must be carried out to identify the true landowners in a project area for the purposes of benefit sharing and landowner participation in the project. Landowners can also participate in any resource development projects

through their ILGs, landowner companies and joint venture arrangements (although there are many problems with these arrangements) (Ase 2011b).

While the FMA process must be done with the informed consent of customary landowners, in practice, the process can be abused and there are many cases where proper consent has not been secured or due process has not been followed (ITTO 2007, ODI 2007a). According to the 2007 report by the ITTO (2007: 13):

‘The current acquisition process as executed by the PNGFA appears to give only superficial attention to the rights and choices of customary landowners in their lawful right to decide on the activities that are permitted/wanted on their land as stipulated in the 1991 Forestry Act. Moreover, processes for community resource mapping, community visioning, setting shared goals, identification of conservation areas, ancestral areas, resolving boundary issues, etc. are seriously absent under the current mechanism of resources acquisition’.

Another common issue is the failure of logging companies to honour the terms of FMAs, not only with respect to the volume of logs harvested and compliance with environmental provisions, but also in relation to developing promised infrastructure such as schools, health clinics, roads, etc. (ITTO 2007, Anderson and Lee 2010). Landowners have also often been ‘locked in’ to poor deals which did not see them share in any increases in international timber prices. Under the *Forestry Act 1991*, landowners receive predetermined royalties per cubic metre of timber extracted, and negotiate a package of infrastructure development. Royalties are calculated in the local currency (kina) and landowners can lose out if the kina depreciates, which it did dramatically after a new revenue system was introduced in 1996 (C. Filer personal communication).

There are also deficiencies in the legal and institutional framework governing the forest sector, with one review suggesting there is significant ambiguity over processes for resource acquisition and allocation, together with structural and capacity weaknesses within key government agencies responsible for forest management

(ODI 2007b). The review undertaken by ITTO (2007: v) also highlighted the problem of:

‘...compliance of the government itself with the laws of PNG when deciding to designate a forested area for logging purposes; negotiating the agreement with landowners; managing, monitoring and enforcing the agreement; and when extending current agreements’.

In December 2007, parliament passed two sets of amendments to the *Forestry Act 1991* without debate or broad stakeholder consultation: the *Forestry (Amendment) Act 2007* and the *Forestry (Timber Permits Validation) Act 2007*. These changes were seen as legitimising illegal and unsustainable logging and serving the interests of the logging industry over those of landowners (Transparency International 2009).

The nature of illegal logging in PNG can be summed up by the conclusion of the 2007 ITTO review, which found that, while PNG’s forest laws are generally strong, the GoPNG lacked the capacity and willingness to monitor and enforce its own laws. Since this statement was made there has been little evidence of significant reform of forest governance in PNG (Laurance *et al.* 2011).

#### 2.1.4 Implications for REDD+

Despite the strong *de jure* rights of customary landowners, there are significant concerns about the impact of REDD+ on customary landowning communities. While the purpose of the *Forestry Act 1991* was to provide for greater participation in decision-making (INA/IGES 2010), in practice these provisions are often not adhered to. This has perhaps been most obvious in the granting and renewal of logging concessions under the *Forestry Act 1991* (ITTO 2007), and the granting of Special Agriculture and Business Leases under the *Land Act 1996* (Filer 2011). The current FMA process highlights some of the difficulties REDD+ may face, in terms of landowner engagement, benefit sharing and dispute resolution. A recent example of the difficulties in negotiating and implementing benefit-sharing arrangements can be found in the PNG–LNG Project Umbrella Benefit-Sharing Agreement (*Kokopo Agreement*) – the main umbrella agreement for the USD16 billion Liquefied Natural Gas project in PNG. Coordinated by the GoPNG,

it took thousands of participants 6 weeks to negotiate. However, it is not recognised by all affected landowners and there are several clan groups that have rejected the agreement, claiming they were not made aware of its content and that there was no consensus. There have also been concerns over the ‘social mapping’ process used to identify affected landowners so as to gain their informed consent and to negotiate compensation/benefits (Garrett 2011).

## 2.2 Decentralisation and benefit sharing

PNG has 20 provinces, 89 districts, 313 local level governments (LLGs) and 6 131 wards (villages). Each has specific powers and is able to pass laws based on their devolved powers, but each is subject to the laws of the higher tier of government (see Figure 3).

A programme of decentralisation was enacted in PNG after Independence to reform the highly centralised system that was left behind by the Australian colonial administration (Gelu 2010). In February 1977, parliament passed the *Organic Law on Provincial Governments*, which was superseded by the 1995 *Organic Law on Provincial Governments and Local Level Governments* (OLPLLG). A key feature of the OLPLLG was the decentralisation of public administration to the district level in the hope of improved service delivery (NRI 2010).

### 2.2.1 Decentralisation in land use and forest management

Under s42 of the OLPLLG, provincial governments have powers to make laws regarding land and land development, and forestry and agro-forestry, amongst others (Independent State of Papua New Guinea 1995). However, the jurisdiction of the provincial governments over forestry does not extend to decisions on *large-scale* forestry projects, maximum or minimum volume or quantities, export prices, tax measures or taxation, levies or dues to be levied – which remain the prerogative of the national government.

Decentralisation of decision-making within the forestry sector is governed by the OLPLLG and the 1991 *Forestry Act*. Under the *Forestry Act*, decentralisation of decision-making within the forestry sector is through Provincial Forest



Figure 3. Tiers of government in Papua New Guinea

Management Committees (PFMCs) whose mandate is to enable consultation with and participation of provincial governments and customary landowners. PFMCs also assist provincial governments in preparing forest plans and development programmes; provide recommendations to the National Forest Board on terms of FMAs, selection of operators and preparations of timber permits and enforcement of their conditions; and make recommendations to the minister on numerous other activities including extension, renewal, transfer, amendments or surrender of TAs.

Decentralisation within the forestry sector was intended to place forest planning and approval functions with the PFMCs, while the National Forest Board would only provide advice and relay the decision to the minister for endorsement. However, amendments to the *Forestry Act* in 2010 removed the power of decision-making in the selection of the developer from the PFMC, which now only has the power to recommend three developers for the National Forest Board to select and recommend to the minister for approval.

While the original aim of decentralisation and the OLPLLG was to bring government closer to the people and improve service delivery, in practice it has produced contradictory outcomes with tensions between national and provincial levels of government for control over the distribution of resources and delivery of government services (Taylor 1997, GoPNG 2004, Gelu 2010). There has also been a lack of capacity to effectively implement mandated roles and confusion over who

has what power (Barcham 2009). There is some suggestion that LLGs are increasingly marginalised from planning and financial decision-making at provincial and district levels and that districts (the electoral and administrative units of national Members of Parliament) have overshadowed all other forms of local political activity (Allen and Hasnain 2010).

In the forestry sector, this has manifested in less power being vested in provincial and local governments, restricting these authorities to small-scale ventures. The 2007 ITTO report found that PFMCS were the right level of governance for engaging landowners and ensuring sustainable forest management, but that their technical capacity would need to be strengthened and the representation of civil society in their functioning increased for them to operate effectively (ITTO 2007).

In terms of decentralisation of decision-making as regards land use, customary landownership is legally recognised in PNG, and land use decisions rest with the traditional leaders. As discussed further in Section 5.3.2, customary land cannot be 'sold' but can be leased for various development activities. However, when it comes to land use planning for macroeconomic activities, customary landowners and their leaders often have little or no input or participation in decision-making. Even local-level governments have little input to land use planning and land allocations. The recent issue of SABLs is partly due to lack of understanding by customary landowners of the concept and the mechanisms involved. Customary landowners were misled into allowing their land to come under SABLs, and by doing so foreigners were given the title over the land. Also, because provincial and local-level government officials were less involved in the land use planning, most decisions and advice came from the national government.

Under s44 (1) (p) of the OLPLLG, local-level governments are able to make laws regarding the local environment. However, in practice, many LLGs do not realise they have the right to pass these laws and even once passed, may not have funding for effective implementation (P. Nato personal communication). Several NGOs are working with communities and LLGs to use these provisions to provide legal recognition to land use plans developed at the local level and as a

model for community-based REDD+ (The Nature Conservancy 2010).

In practice, decentralisation reforms provided for under the OLPLLG have not been realised on the ground, and most land use plans and decisions are still made at the national level. The governance arrangements between the local-level government, the provincial government and the national government are still very weak, allowing the national government to wield substantial power in decision-making over land use planning.

### 2.2.2 Implications for REDD+

PNG faces considerable tensions within and between its layers of government, and amongst broader governance systems. These existing tensions face being exacerbated by REDD+, particularly when defining the role of the state in transactions involving forest carbon and equitable benefit-sharing arrangements. The state risks isolating customary landowners if they do not perceive they are receiving a fair share of the benefits from 'their' forests. Existing disillusion with the national government, particularly amongst landowners in remote areas who fail to see government services reach them, will need to be addressed before landowners can trust that the government will be able to develop an equitable system of benefit sharing. There is likely to be greater community support for decentralised management of REDD+ (PESECG 2011); however, LLGs would need to be strengthened and supported, as part of broader governance reforms, before they are likely to be able to play a significant role in REDD+.

## 2.3 Indigenous rights and rights to carbon, land and trees

### 2.3.1 Indigenous peoples' rights

PNG is one of the world's most culturally heterogeneous societies, with an estimated 820 language groups (12% of the world's total) and many more tribes and clans. PNG's Constitution and other laws provide strong recognition of and protection for, the rights of Melanesian communities and clans, which make up the vast majority of the country's roughly 6.6 million people. The preamble to the Constitution states that the 2<sup>nd</sup> National Goal is 'to be for all citizens to have an equal opportunity to participate in, and benefit from,

the development of our country', including 'an equal opportunity for every citizen to take part in the political, economic, social, religious and cultural life of the country' (Independent State of Papua New Guinea 1975).

However, successive governments have moved away from both the spirit and the letter of the Constitution and systematically eroded indigenous peoples' rights. Indeed, environmental NGOs have suggested that 'the problem in PNG is not the lack of rights guarantees, but the capacity and the will of the state to implement, uphold and defend those rights' (CELCOR & ACF 2006: 27). Recent moves weakening the rights of indigenous peoples have included the following.

- Controversial amendments were passed in May 2010 to the *Environment Act 2000* that restricted the rights of landowners to sue for compensation for environmental damage or seek judicial review if a project on their land is ruled to be of 'national interest'. This amendment was widely condemned as unconstitutional and seen as potentially weakening the rights of landowners with respect to REDD+ (Lang 2010) and has since been repealed.
- There has been a rapid increase in the number and size of SABLs being granted over customary land without adequately observing the rights protections provided for under the *Land Act 1996*. In February 2011, a group of civil society organisations made a submission to the United Nations Committee on the Elimination of Racial Discrimination (CERD) raising concerns that the SABLs were likely to bring 'harm to the rights of Indigenous peoples to the continued use, enjoyment and ownership of their lands and resources and to judicial remedies' (CELCOR *et al.* 2011).

PNG's participation in international human rights agreements has generally been poor. PNG was absent from the vote on the United Nations Declaration on the Rights of Indigenous Peoples (UNDRIP) when it was adopted by the General Assembly in 2007; it is not a signatory to ILO Convention 169 concerning Indigenous and Tribal Peoples in Independent Countries; and as recently as 2011, the Chairman of the Committee on the Elimination of Racial Discrimination (CERD) noted 'with concern' that PNG has not submitted reports requested by CERD since 1984 and has

requested the country submit its overdue reports in order to resume the dialogue on the elimination of racial discrimination.

There are several NGOs active in promoting the rights of customary landowners with regard to land and natural resources in PNG. These include the umbrella organisation, the PNG Eco-Forestry Forum (EFF), which promotes sustainable forest management through improved governance in the country. Other local NGOs (many of them members of EFF) are active in promoting and facilitating the rights of landowners – including the Foundation for People and Community Development Inc. (FPCD) and the Bismarck Ramu Group (BRG). Another NGO, the Forest Management and Product Certification Service (FORCERT) promotes local ownership of forestry operations by providing certification and marketing assistance for small-scale timber harvesting. The country also has two key community legal centres, the Centre for Environmental Law and Community Rights (CELCOR) and the Environmental Law Centre (ELC), which provide community legal education and representation on issues regarding customary land. Many of these organisations have links to international movements and have played a significant role in the development of REDD+ policies and strategies in PNG to date.

The EFF has been a key actor in REDD+ policy development both domestically and internationally. EFF supports the concept of REDD+, particularly for the role carbon financing could play in both forest protection and sustainable development, but raises concerns that PNG's 'governance track record and the many external vested interests suggest that carbon financing could potentially add to our current problems' (EFF 2007: 2). EFF has been advocating on REDD+ issues since 2007 and has seen its influence strengthen since being appointed to the UN-REDD+ policy board in 2009 as a representative of Civil Society Organisations. EFF is also a member of the Technical Working Groups (TWGs) set up by the Office of Climate Change and Development (OCCD). EFF has advocated on four main issues with regard to REDD+: governance, free prior informed consent, equitable benefit sharing and land use planning. EFF has also conducted awareness-raising workshops on REDD+ in a number of provincial

areas, some in conjunction with the government's OCCD. EFF is in a strong position to contribute to and influence REDD+ policy and strategy formation in the country.

One international environmental group, Greenpeace, has criticised PNG for wanting to continue BAU logging and forest clearing under SABLs while simultaneously seeking international funding for REDD+ (Greenpeace 2010, Turner 2010). Like EFF, Greenpeace broadly supports REDD+, but is concerned that:

'The poor governance and entrenched corruption that has long characterised the PNG logging industry, together with a refusal to accept conditions for REDD+ funding and a growing dismissal of indigenous peoples' rights, means PNG is not currently ready for REDD+ funding' (Greenpeace 2010).

Greenpeace's key recommendations have been for a moratorium on new large-scale logging and agricultural concessions and a review of existing operations, as well as stringent safeguards for indigenous peoples and biodiversity (Greenpeace 2010).

### 2.3.2 Rights to land and resources

PNG is rather unique among REDD+ countries, as around 97% of its total land area and virtually all its forest land (99%) are owned by customary landowners and regulated by custom, not by the state (NRI 2007, ODI 2007a). Customary tenure is based on accepted local norms and inherited kinship group rights and varies between clans and locations (Holzknecht 2011).

Customary land ownership is enshrined in the PNG Constitution (sections 53(1) and (4)) and protected by legislation including the *Land Tenure Conversion Act 1963* and the *Land Act 1996*.

The *Land Act 1996* (s2) defines customary land as 'land that is owned or possessed by an automatic citizen or community of automatic citizens by virtue of rights of a proprietary or possessory kind that belong to that citizen or community and arise from and are regulated by custom.'

The *Forestry Act 1991* (s46) further prescribes that customary landowners in PNG own all forest resources. With reference to the 'bundle of rights' (Schlager and Ostrom 1992), customary landowners have rights of access, use, management,

and exclusion. However, customary land cannot be 'sold' (Sillitoe 2000, Anderson and Lee 2010).

Despite these strong *de jure* rights, in practice, customary landowners can be excluded from decision-making regarding their land. A major challenge in developing customary land for commercial logging or other development activities has been to identify all members of customary landowning groups and hence determine the true owners of any particular area to gain their free, prior and informed consent. Under the *Land Groups Incorporation Act 1974*, customary landowners have been able to form a corporate body, an Incorporated Land Group (ILG), to manage their customary land. Although not part of their original purpose, ILGs have often been used as a 'short cut' to obtain landowner consent for natural resource projects on customary land and for distributing the benefits of these projects to customary landowners (Tararia and Ogle 2010). There have been a number of problems with the use of ILGs for this purpose, including inadequate requirements for identifying, and therefore including, all relevant landowners in decision-making and benefit sharing. Indeed, disputes between the government, forestry companies and landowner groups have often revolved around whether contractual relations allowing logging on customary land were entered into with the 'real' owners (ODI 2007a).

The inability to 'sell' customary land has led to mechanisms for *leasing* customary lands for development activities (Ase 2011a). A mechanism known as 'lease-leaseback' is often used to develop customary land for commercial agriculture. Through this mechanism, customary landowners nominally lease land to the state, the state then provides a title to the land which customary landowners can use to lease their land to a third party, such as an oil palm company (Anderson and Lee 2010). While this process should be done with the informed consent of customary landowners, in practice, the process can be abused and there are many cases where proper consent has not been gained or the approvals process has not followed legal requirements (Ase 2011a).

As discussed previously, SABLs are increasingly being used as a mechanism to clear forests or for land speculation in the context of the current global 'land grab' (Filer 2011). While initially

intended to allow customary landowners to participate in agriculture development on their land, they have increasingly been used to transfer rights to ‘outsiders’ (Filer 2012a), with 75% of SABLs thought to be controlled by foreign-owned companies – predominantly Malaysian and Australian (Greenpeace 2012).

There is widespread concern that many, or a majority, of SABLs have been obtained without the consent of customary landowners (Ase 2011a). The first of these cases to be taken to court (*Musa Valley vs. Department of Lands and Physical Planning*) substantiated this concern, with the customary landowners successfully challenging a SABL that was issued for 99 years on their land. In his findings, the judge concluded that consent had been fraudulently claimed with Musida Ltd, the recipient of the lease, having secured the agreement of only 10 of the 62 ILGs who owned the land in question. However, the land was not restored to customary ownership and a new SABL was granted over it (C. Filer personal communication). The fact that SABLs can be granted for periods of up to 99 years effectively alienates customary land for several generations. Many commentators now suggest that SABLs have effectively reduced the amount of land under customary land tenure in PNG from 97% to 85% (Filer 2011).

Some of the problems discussed above may be addressed by recent land reforms in PNG, with the introduction of two new landmark laws – the *Land Groups Incorporation Act 2009* and the *Land Registration Act 2009*. The limitations of, and dissatisfaction with, existing institutional arrangements, such as the lease–leaseback scheme, ILG, and land dispute settlement processes, together with the need to mobilise land for economic development prompted the government to initiate a comprehensive land reform programme in 2005. The new legislation provides a mechanism for identifying all the members of a customary landowning group, and allows this group to register only those parts of their land that they are interested in making available for development by the public or private sector. While implementation of these new procedures is still at a nascent stage, some observers suggest the new procedures have the potential to address many of the problems experienced with previous mechanisms for mobilising customary land,

including those associated with the allocation of SABLs (N. Bingeding personal communication). This could include ending the lease–leaseback scheme altogether, on the grounds that ILGs can now register their own titles and grant their own leases. Other proposals consider placing a limit on the area that could be covered by a single SABL (C. Filer personal communication).

The success of the land reform programme, where previous attempts at land reform in Papua New Guinea had failed, may provide important lessons for the development of REDD+ policies. Three key factors were suggested by Yala (2010) as contributing to the reform programme’s success. First, there was a structured policy process including conception, formulation and implementation. Second, there was strong national ownership and Papua New Guinean institutions, and experts maintained control over the process. Yala (2010: 7) suggests that a particularly critical element was ‘consistency in leadership, commitment and passion at the political, bureaucratic and technical levels’. Finally, the support role played by donors who were willing to fund the land reform programme without providing technical oversight or assistance further strengthened its national ownership and ensured it was not seen as being externally imposed. These lessons are likely to be relevant for the success of other sensitive policy reforms in the country, including forest policy and REDD+.

### 2.3.3 Carbon tenure

Different stakeholders have different views on who owns forest carbon and who has rights to sell/trade in forest carbon. The PNGFA’s policy on climate change and forestry provides, as a goal to be achieved by 2012, ‘...natural forest carbon owned by the customary landowners and managed by the state’ (PNGFA 2009). The position of many other groups, including civil society organisations and academics, is that customary landowners own the land and the trees upon it, so they also own the carbon/carbon sequestration rights (Ase 2011b, Bingeding 2011b, Holzkecht 2011). The GoPNG is yet to develop a policy or legislation clarifying ownership of forest carbon/carbon sequestration rights. In the absence of a clear policy and legislation, the GoPNG has asserted that there is no legal basis for the establishment of forest carbon sequestration schemes in the country,

stating that ‘The Government’s position is that voluntary trading of forest carbon is inadvisable and premature under the present arrangements...’ (NEC Decision 55/2010). The government prefers to wait for a formal REDD+ mechanism under the UNFCCC, rather than engage in voluntary carbon projects.

### 2.3.4 Dispute resolution mechanisms

Land tenure conflicts are widespread in PNG due to the high reliance on land for the subsistence of the majority of Papua New Guineans. Conflicts between clans *within* a village are usually resolved easily through village meetings. However, land tenure conflicts *between* villages, often arising from major developments activities, are more difficult to resolve. In general, processes for settling disputes over customary land in PNG are considered inadequate (Yala 2010). Despite strong *de jure* rights, customary landowners who wish to challenge the legality of logging concessions or SABLs granted over their land face enormous challenges. Disputes are meant to be resolved by using customary dispute resolution mechanisms provided for under the *Land Dispute Settlement Act 1975*. The courts are generally excluded from hearing customary land disputes in the first instance, although there is provision for dispute resolution through the courts under the *Land Act 1996*. However, these are considered insufficient for customary land owners with little access to the national judicial system (D. Ase personal communication), and land dispute cases have often been shifted around from one court to another (NRI 2007).

### 2.3.5 Implications for REDD+

Rights to forest carbon have not yet been clarified in PNG. Previous incarnations of the Office of Climate Change indicated a preference for ownership/control of carbon at the national level, although various academics and legal experts have suggested that carbon/carbon sequestration rights are likely to be held by customary landowners. The PNGFA, meanwhile, has suggested a model of carbon rights similar to timber rights – whereby carbon would be owned by landowners but ‘acquired’ and/or managed by the state on their behalf. There is a need to review PNG’s forest laws and policies to clarify tenure arrangements and protect traditional forest owners’ interests and rights under a REDD+ mechanism.

In terms of effective and efficient implementation, REDD+ will need to follow normal processes of forest development, starting with landowning communities and working up through local-level governments, provincial governments and finally the national-level government. There is little scope for the national level to impose projects on landowners, particularly given the need for REDD+ to deliver permanent (or long-term) emissions reductions. Gaining comprehensive, long-term, multigenerational support from landowning communities will be vital for the success of REDD+ in reducing carbon emissions. However, if experiences in other sectors, such as mining, logging and infrastructure developments, are anything to go by, these types of broad-based, long-term agreements can be lengthy and costly to negotiate and maintain.

# 3 The political economy of deforestation and degradation

## 3.1 History of deforestation and degradation in PNG

PNG's forests have long been, and still remain, an important part of the production systems on which most people depend for their livelihoods. It was only during the 1920–30s, under colonial administration, that their value in terms of commercial timber production was first recognised. In 1951, under the Australian colonial administration, a comprehensive forest policy was developed which emphasised the production of sawn timber for post-war reconstruction and the clearance of land for agriculture (Holzknecht and Golman 2009). Virtually all logging companies in the colonial period were Australian owned or Australian based and while some of these companies processed timber locally, most was exported as round logs. Harvesting levels remained relatively low and forests were managed as a 'national asset' in the interests of the present and future generations (Holzknecht and Golman 2009).

Since Independence from Australia in 1975, the forest sector has been an important source of foreign exchange for PNG. Successive governments, together with multi-lateral institutions and multi-national corporations, have all promoted industrial-scale logging for export. In 1979, the GoPNG revised forest policy towards the active promotion of log exports. Timber production, especially logs for export, increased rapidly in the 1980s, supported by national development policies (Saulei 1997). This paved the way for a number of Asian-based logging companies, with a different business model to the Australian-based logging companies that operated during the colonial period, to begin operations in the country (ODI 2007a; Holzknecht and Golman 2009), resulting in a fivefold increase in log exports. However, this rapid increase in

logging was not matched by a similar increase in forest management capacity, and, as a result, forest harvesting exceeded estimated sustainable levels (ODI 2007a).

Three factors are suggested to have undermined the national forest control system immediately after independence (ODI 2007a). First, independence created new aspirations for the country among national leaders, requiring new sources of income to finance them. Second, restructuring occurred within the public service, with the loss of many experienced foresters who took with them knowledge of the application of forest control measures. Third, the introduction of provincial government in 1976 resulted in forestry management being shared between the national and provincial governments with no proper division of responsibilities. All of these factors are suggested to have combined to erode previous controls that had operated in the forest sector prior to Independence, and have led to the increase in deforestation and degradation.

In 1987, a Commission of Inquiry into Aspects of the Timber Industry (The Barnett Inquiry) was established following persistent complaints about the activities of foreign logging companies throughout the 1980s. It found that some timber companies were operating illegally. A much quoted phrase of the report states:

'It would be fair to say, of some of the companies, that they are now roaming the countryside with the self-assurance of robber barons; bribing politicians and leaders, creating social disharmony and ignoring laws in order to gain access to, rip out and export the last remnants of the province's valuable timber...'  
(Commission of Inquiry Interim Report No. 4 Vol. 1: 85 cited in Asia Pacific Action Group 1990).

The Barnett Inquiry found that, with no properly developed forest sector plans with predetermined projects in place, the door was open for *ad hoc* decision-making. This gave some loggers the opportunity to bribe or influence customary landowners, provincial governors, national and provincial ministers, politicians and public servants in order to gain access to timber resources (ODI 2007a).

The GoPNG responded to the findings of the Barnett Inquiry with a comprehensive reform programme. This included development of a new National Forest Policy and revision of forest legislation resulting in the *Forestry Act 1991*. The new *Forestry Act* included much tighter controls on the acquisition and allocation of land for forest development and introduced a new regime of sustainable forest management. It also provided for the establishment of a new statutory authority, the PNGFA, to replace the old Department of Forests, and led the forestry reform process and development of forest management strategies (ODI 2007a, PNGFA 2007).

Ironically, the new *Forestry Act* also provided a perverse incentive for a spate of new permit approvals in the lead up to the gazettal of the new *Forest Act* (ODI 2007a). On the day before the Act came into force, the Minister of Forests issued 17 timber permits under the old legislation (Wood 1997). This increase in the number of timber permits, together with high international prices for tropical hardwood logs, saw many of the most highly productive timber concessions brought into operation with a huge surge in log exports in 1992/93 (Bun *et al.* 2004). However, the vulnerability of roundwood log exports to international market conditions was demonstrated in late 1997 with the first signs of the 'Asian financial crisis'. This resulted in a significant downturn in the tropical timber trade and the price of logs fell. PNG, together with Indonesia and Malaysia, were the worst-hit major tropical wood producers (ODI 2007a). More recently, timber from SABLs has contributed to a spike in log exports to a record high of 3.5 million m<sup>3</sup> (Garrett 2012) (see Table 4). The majority of these logs were exported to China.

From the mid-1990s, PNG experienced increasing macroeconomic instability, with large trade deficits and foreign debt, which led to the formation of a

**Table 4. Volume and value of tropical log exports from Papua New Guinea 2006–2011**

Year	Total tropical log exports (in million m <sup>3</sup> )	Value USD
2006	2.7	N/A
2007	2.9	N/A
2008	2.6	189 950 784
2009	2.1	169 933 857
2010	3.0	272 030 754
2011*	3.5	N/A

\* 2011 figures are estimates based on monthly figures to August 2011.

Structural Adjustment Programme (SAP) in 1995. Funded by the World Bank and International Monetary Fund, the SAP led to drastic economic reforms which included removing the minimum wage and price controls on basic food items, and introducing fees for health and education services (Sembajwe 2010). Many civil society groups argued that the SAP relied on unsustainable exploitation of PNG's mineral resources to fuel its development, rather than strengthening local industry and promoting self-sufficiency (CELCOR & ACF 2006). In addition, public service budget cuts severely restricted the PNGFA's capacity to properly monitor logging activities, which Wunder (2003) suggests contributed to an increase in forest degradation and poor forest governance during this period.

Concerns that commercial timber harvesting in PNG was not providing long-term benefits to the country or its citizens re-surfaced in the late 1990s. In 2000, a moratorium on the granting of new concessions was established. In 2001, the World Bank supported a USD17 million Forestry and Conservation Project (FCP); and the GoPNG commissioned five reviews between 2000 and 2005 on the administration and practice of the logging industry:

- Review of Forest Harvesting Projects Being Developed Towards a Timber Permit or a Timber Authority (2000–01)
- Review of the Forest Revenue System (2001–02)
- Independent Review of Disputed Timber Permits and Permit Extensions (2003)
- Review of Current Logging Projects (2004–05)
- Compliance Audits (2004–05) (ODI 2007a)

In 2003, the Independent Forestry Review Team noted that:

‘In his Report in the late 1980s Justice Barnett made reference to “robber barons” of the forest industry roaming the countryside at will. The overwhelming conclusion of the Review Team...is that the robber barons are now as active as they ever were. They are not only free to roam, but are in fact encouraged to do so by persons whose proper role is to exercise control over them’ (Forest Trends 2006, Vol. II: 52)

In 2003, the World Bank suspended the FCP loan, which had included a series of reform conditions, due to dissatisfaction with the government’s efforts to curb illegal logging. In May 2005, the loan was cancelled altogether with no significant reform outcomes (The World Bank 2006).

### 3.2 Deforestation and degradation in the context of national development and sectoral policies

Since Independence, PNG has pursued export-driven economic growth with a focus on primary and extractive industries. While mineral resources accounted for around half of the country’s export income at the time of Independence, timber exports only contributed around 5% at that time (Filer 1997). However, the 1980s and 1990s saw a rapid increase in the proportion of export income coming from the forest sector, mainly in the form of raw, unprocessed logs. By the late 1990s, natural resource industries including logging, mining, and oil and gas were said to account for almost 90% of PNG’s ‘non-aid’ revenue, leading Filer to suggest the country was a nation (and a government) of ‘resource rent collectors’ (Filer 1997).

A National Forest Policy was approved in September 1991 with the following broad objectives:

- management and protection of the nation’s forest resources as a renewable natural asset;
- utilisation of the nation’s forest assets to achieve economic growth, employment creation and increased onshore processing;
- collection of data and the advancement of knowledge relating to the utilisation and management of the forest resources through research;

- improved training and education in forestry; and
- effective strategies to administer and maintain the forest resource.

The policy also called for the preparation of a National Forest Plan. The plan was to be based on a national forest inventory and to include a statement of the annual allowable cut for each of the 19 provinces. A National Forest Plan was approved in mid-1996, setting out a plan for:

- downstream processing;
- the annual allowable cut for the country to be set at 4.9 million m<sup>3</sup>;
- on-going log exports at current levels;
- definition of land use categories identifying reserves and protection forest, as well as production forest;
- programmes for sustainable forest management;
- a national forest inventory to improve resource information;
- emphasis on resource replacement or reforestation to ensure on-going wood supplies;
- acquisition of forest resources from customary owners to be made under FMA; and
- staff recruitment to accompany development (Hammond 1997).

The National Forest Policy and the National Forest Plan have not been reviewed or revised since their creation (Holzknecht and Golman 2009).

PNG’s extractive industries have been almost entirely under the control of foreign capital (Filer 1997), which limits the proportion of the benefits that stay in the country. In its 2007 review, ITTO found there were very few domestic logging companies with the primary authorisation to harvest timber for export. Instead, most companies operating in large logging concessions are foreign based with an extensive foreign employee base overseeing their activities in PNG (although some have hired domestic logging companies as subcontractors for some aspects of the work). In rural and remote areas of PNG, the resource sector is an important provider of employment and basic social and economic services such as roads, bridges, schools and health centres, which the government has been unable to provide itself (GoPNG 2010d). However, there have been criticisms about the short-term nature of many of the public services provided, such as roads,

which are often only maintained during logging operations (CELCOR & ACF 2006).

Moving forward, PNG has a range of strategies and plans for development including Papua New Guinea Vision 2050, the Papua New Guinea Development Strategic Plan 2010–2030, and the Medium Term Development Strategy for 2011–2015.

The Papua New Guinea Development Strategic Plan 2010–2030 looks to diversify the economy so that it is not overly dependent on any one sector (namely mining). With respect to the forestry sector, the plan aims to capture greater benefits from the country's forests for current and future generations and take a sustainable approach to forestry. A key strategy is to have all logs provided by plantations and managed forests by 2030. The plan also states that PNG can make a significant contribution to reducing global greenhouse gas emissions with good forest management and can meet 'international demand for carbon storage or for other environmental services' (GoPNG 2010c: 94).

The country's Medium Term Development Plan 2011–2015 outlines a strategy to increase plantation forests from 62 000 ha to well over 150 000 ha by 2030 (GoPNG 2010d). A more ambitious goal of the PNG FA is to develop 240 000 ha of commercially viable and sustainable commercial forest plantations by the year 2030, to meet 'future timber demand both domestically and for export purposes as well as to fulfil the government's commitment to the clean development mechanism' (PNGFA 2007). The 2007 ITTO review noted that large areas of degraded land and grassland areas are available for establishing commercial forest plantations – up to 7.9 million ha according to Shearman *et al.* (2008). However, barriers to the expansion of plantation forests in PNG include access to land (i.e. interest from customary landowners to establish plantations themselves and/or make land available to others to establish plantations), availability of investment funds, availability of planting materials and access to appropriate seed sources (ITTO 2007).

Many in PNG seek a more culturally appropriate and environmentally sustainable form of development to the resource exploitation model

### Box 1. The Papua New Guinea Development Strategic Plan 2010–2030

Specific forest strategies include:

1. National forest inventories shall be undertaken every ten years to ensure policy decisions are well informed
2. Promote sustainable forest management through the establishment of permanent forest estates
3. Prevent felling of natural forests unless the land is developed to provide sustainable jobs and income, whether through agriculture, plantation or other profitable land use
4. Pursue downstream processing of forest products such that 60% of PNG timbers are processed in-country by 2030
5. Strengthen the regulatory and policy framework, including ensuring compliance in order to give full effect to government policy
6. Enhance the research and extension services of the forest industry so that the industry is profitable and sustainable to benefit current and future generations
7. Develop forest plantations to meet the impact of climate change and to meet future timber demand for both domestic and international markets
8. Promote community forestry activities with the view of empowering rural communities and alleviating poverty
9. Promote the international initiative Reducing Emissions from Deforestation and Forest Degradation (REDD+) to assist with mitigation and adaptation measures in climate change

promoted since Independence. Some argue that the neo-liberal capitalist economic development path has largely failed in PNG, and call for development that is consistent with the goals of the country's Constitution, which promote self-reliance, equity, and sustainable use of natural resources (CELCOR & ACF 2006, Sembajwe 2010). Policy analysts and researchers have highlighted the need for integrated and holistic policy making and planning and effective implementation of development programmes, noting the difficulty of balancing the subsistence needs of the vast majority of Papua New Guineans with the need for economic growth and environmental conservation (Sembajwe 2010).

### 3.3 Agricultural policies

Agriculture currently provides around 17% of PNG's GDP, a figure that has been steadily declining since the mid-1990s as the proportion of revenue from the mining sector has increased. Wunder (2003) suggests that the mining boom has made PNG's agricultural exports uncompetitive, which is likely to have had the effect of *reducing* pressure for forest conversion for agricultural plantations.

Of concern for REDD+ is the likely extent of *future* forest clearance either for, or under the guise of, oil palm expansion. In 2000, oil palm surpassed coffee as the country's leading agricultural export earner. The National Agriculture Development Plan (2007–2016) forecast an expansion in the area under oil palm cultivation over the next 5 years (GoPNG 2007). However, deforestation to make way for oil palm development is unlikely to reach the extent that it has in Indonesia and Malaysia. Palm oil produced in PNG is not internationally competitive due to higher labour and other costs. Most oil palm producers in PNG have needed to exploit niche markets for sustainable oil palm and gain certification under the Roundtable for Sustainable Oil Palm (RSPO), which can provide a higher price per unit but which comes with strict rules preventing palm oil from being sourced from plantations that have cleared primary or high conservation value forests to plant oil palm.

Instead, as discussed previously in Section 1.2, a number of dubious SABLs have been granted over large areas of land in recent years, ostensibly for oil palm development but with few of these areas having been planted to date. The government's policies for expanding oil palm cultivation may thus have the unintended consequence of promoting a 'virtual' oil palm industry associated with significant deforestation, without the broad-based economic benefit anticipated from an expansion of the 'real' oil palm industry (Filer 2011, 2012). In May 2011, the GoPNG announced a moratorium on the granting of *new* SABLs and appointed a Commission of Inquiry, which was due to provide the parliament with a report on its findings in the second half of 2012.

### 3.4 Mining policies

Starting in the 1970s, PNG became a significant mineral exporter – mainly copper, gold and silver – from the Panguna mine on Bougainville and later from other mines that came into production in the 1980s and 1990s, such as Ok Tedi in 1984 and Lihir in 1997. During the 1990s, the country also began to develop petroleum resources in the Southern Highlands as well as off-shore reserves. This mining 'boom' saw mineral export revenues replace agriculture as the dominant foreign exchange earner. The boom is also suggested to have contributed to fiscal instability, increasing law-and-order problems, and the rise of corruption in the 1990s, including individuals 'pocketing' mineral revenues and investing them off-shore, thereby contributing to increased political and economic insecurity (Wunder 2003).

In recent years, liquefied natural gas (LNG) projects have radically changed the economic, social and political landscape in PNG. At the forefront is the USD15 billion ExxonMobil PNG LNG project – the largest foreign investment in the country to date. LNG is expected to become a major sector of the economy by 2014, with suggestions that the ExxonMobil project alone could double the country's GDP. The project is likely to provide investment in infrastructure and human resource development and has the potential for more broadly based benefits. However, concerns have been raised over potential risks to the wider economy from 'Dutch disease' – the potential for negative impacts from large inflows of capital into the economy, including inflation and currency appreciation, increased wages and costs (such as housing) and skills shortages (Barker 2011). The sheer scale of the LNG sector could be a game changer for PNG in terms of the amount of revenue generated and its potential to provide investment in infrastructure and services. What it all means for the country's reliance on forests and agricultural land as a driver for economic growth remains to be seen, particularly given the complex political economy of deforestation and forest degradation that currently privileges some individuals and groups over others.

# 4 The REDD+ policy environment: actors, policy events, policy processes

## 4.1 Broader climate change policy context

Several government agencies have produced policy documents related to climate change and REDD+. These include a rather brief National Climate Change Policy Framework for Papua New Guinea, developed by the former Office of Climate Change and Environmental Sustainability (OCCES undated); and the Forestry and Climate Change Framework for Action 2009–2015, produced by the Ministry of Forests in November 2009 (Ministry of Forests 2009).

PNG currently has one project registered under the Clean Development Mechanism (CDM) – the Lihir Geothermal Power Project (grid-connected electricity generation from renewable sources) (UNFCCC undated). It has been suggested that PNG has the capability to support large-scale afforestation/reforestation projects for the CDM (Newsome and Krausse 2006) although none have been developed to date. The Office of Climatic Change and Development currently serves as the Designated National Authority.

In the lead-up to the 15<sup>th</sup> Conference of the Parties to the UNFCCC in Copenhagen in December 2009, the international consulting firm McKinsey & Co. were engaged to draft a comprehensive national climate change and REDD+ strategy. In March 2010, the government released the draft CCDS for public comment. The strategy notes an aspirational goal of carbon neutrality by 2050 while still achieving annual economic growth of 7%. In terms of broader climate change perspectives, the CCDS highlights PNG's vulnerability to climate change, such as increased coastal flooding and the spread of malaria, and provides an analysis of potential adaptation measures. In August 2010, the OCCD

released an Interim Action Plan for Climate Compatible Development, which outlines priority activities (GoPNG 2010b).

The CCDS identifies REDD+ as a key measure to help PNG achieve its aspirational goal of carbon neutrality by 2050, and as an important source of the necessary funds. Preliminary estimates used in the CCDS indicate that avoided deforestation and degradation could reduce emissions by 50%, leading to a reduction in emissions by 14–19 Mt CO<sub>2</sub>e/year by 2030, at a cost of USD4/t CO<sub>2</sub>e. This reduction would be achieved primarily through a combination of two techniques: RIL in primary forests, and secondary forest management. The CCDS suggests that reducing emissions from large-scale agriculture (mainly land clearing for establishing oil palm plantations) has a much higher opportunity cost at an estimated USD35/t CO<sub>2</sub>e. By contrast, emissions reduction from smallholder agriculture could be achieved for as little as USD1–2/t CO<sub>2</sub>e, which could largely be achieved through agricultural extension services to help increase productivity through improved soil management and other agricultural techniques. However, the CCDS goes on to note that while there is significant scope for productivity improvements in smallholder agriculture, a lack of capacity to disseminate knowledge, seeds and inputs is a major obstacle.

The CCDS notes the importance of pilot projects for enhancing the knowledge base and in testing new policies and institutional arrangements. In March 2012, the OCCD released a set of 'REDD+ project guidelines' to assist project developers in meeting the environmental, social and financial safeguards necessary to gain government support of any REDD+ project (OCCD 2012a).

The PNGFA has identified four provinces as potential locations for pilot REDD+ projects based on sustainable forest management (Milne Bay, Sandaun, Eastern Highlands and West New Britain), and is consulting with the Provincial Forest Management Committee (PFMC) on the type of REDD+ project to establish in these provinces. In addition, the DEC have identified three provinces for pilot REDD+ projects based on forest conservation (Milne Bay, Eastern Highlands and West New Britain).

In addition, the PNGFA has nominated the April Salumei FMA in East Sepik Province as one of its official pilot projects. April Salumei was first proposed as a pilot REDD+ project in 2008 by private carbon project developer Earth Sky, in collaboration with the former Office of Climate Change (OCCES). This project proposal was unsuccessful, largely due to a number of governance issues plaguing both organisations, but was taken over by another private carbon project developer, Rainforest Management Limited. They went on to develop a project design document and seek verification through the Climate and Community Biodiversity Standards (CCBS); it was approved in May 2011.

A number of NGOs are also interested in exploring opportunities for community-based REDD+ pilot projects in PNG. In 2010, the Australian Agency for International Development (AusAID) provided grants to four NGOs to develop community-based REDD+ demonstration activity *concepts* in five provinces: The Nature Conservancy (Madang Province), the Wildlife Conservation Society (New Ireland and Manus Provinces), Conservation International (Morobe Province) and Live and Learn (West New Britain Province) (AusAID 2010). However, none of these has yet been developed into official REDD+ pilot projects. In addition, a local NGO, FORCERT, is coordinating a trial Payment for Environmental Services (PES) project. They are working at both the community level to develop a forest carbon inventory methodology and pilot project, as well as at the national level to develop a proposed PES framework that can inform REDD+/PES policy and legislation (PESECG 2011).

PNG has not yet developed a climate change trust fund or other fund to coordinate climate change funding, although there are plans to do so (Interview with government stakeholder,

30 May 2011). According to the CCDS, REDD+ readiness activities will cost USD30–50 million over the next 5 years (GoPNG 2010a). Several stakeholders are advocating that any national REDD+ fund must have independent, multi-stakeholder management with appropriate checks and balances (Trines *et al.* 2008, Bingeding 2011b, PESECG 2011).

The OCCD is developing a national Climate Compatible Development Policy (CCDP) and associated legislation (OCCD 2012b). In August 2012, the OCCD held a national workshop to gain broad stakeholder input on the CCDP, with a draft released for public comment in early 2013. A National Climate Change Bill has been drafted, but is waiting for the overarching policy to be adopted before being presented to parliament.

## 4.2 REDD+ policy actors, events and processes

The former Prime Minister of PNG, Sir Michael Somare, was a leading proponent of an international REDD+ regime. In 2005, Papua New Guinea, together with Costa Rica, first proposed an agenda item on Reducing Emissions from Deforestation in Developing Countries at COP11 in Montreal. PNG was a founding member and Chair of the Coalition for Rainforest Nations (CfRN) and its executive director, Kevin Conrad, was appointed Papua New Guinea's special envoy and ambassador for climate change.

In October 2008, the Office of Climate Change and Carbon Trade (OCC&CT) was established and tasked with developing Papua New Guinea's climate change policy and managing carbon trading. The OCC&CT answered to the prime minister's office, with a former adviser to the prime minister being appointed as executive director. In early 2009, the body was renamed the Office of Climate Change and Environmental Sustainability (OCCES), and was plagued by a number of governance issues, including questions regarding its legality, and allegations of corruption and financial mismanagement were made against the executive director (Wynn and Creagh 2009). In June 2009, the executive director was suspended and a review ordered (Somare 2009). These early governance problems significantly affected the legitimacy and trust in the country's key climate change institution, both domestically and internationally,

and raised serious concerns about cronyism and the politicisation of key climate change appointments.

In early 2010, a series of decisions by PNG's National Executive Council abolished OCCES and established a new governance structure to coordinate action on climate change (OCCD 2011). A whole-of-government National Climate Change Committee (NCCC) was established as the main decision-making body for climate change policy. This essentially broadened oversight of climate change policy from the prime minister's office to a committee comprising the secretaries of all key government departments. The newly formed OCCD was established as the main coordinating body for climate change policy (OCCD 2011). The office underwent a period of restructuring and capacity building in 2010 to make it a more 'lean and professional' office than its predecessors.

A TWG on REDD+ was convened with diverse membership:

- Government agencies including the Department of Environment and Conservation and the PNGFA;
- Government advisers including McKinsey & Co. consulting firm;
- NGOs, including WWF, The Nature Conservancy, and the EFF;
- Donors including UN-REDD+, the Forest Carbon Partnership Facility, AusAID, JICA and the European Union; and
- Industry associations including the PNGFIA.

A key challenge for early REDD+ policy processes was balancing external timeframes and assistance from 'outsiders' with the need for national ownership of the policy agenda. Many Papua New Guineans resented being represented on the international stage by Kevin Conrad, a non-Papua New Guinean who did not reside in the country but who was nonetheless allocated to the position of PNG's Special Envoy and Ambassador on Climate Change (Turner 2010). There appears to have been a critical lack of awareness of the importance of national ownership of the REDD+ policy process and this severely affected the legitimacy of key climate change institutions. This was perhaps best illustrated by the engagement of an international consulting firm, McKinsey & Co., to develop the CCDS. Civil society groups, public servants, academics and others, who would normally fill a role in

national policy processes, were offended that highly paid consultants from overseas, who had never worked in PNG before, were brought in to develop a national climate change strategy for their country.

Early REDD+ policy development and readiness activities suffered from a lack of broad stakeholder consultation. Existing government agencies, such as the PNGFA, were marginalised and jostled for recognition of their legitimacy to be involved in REDD+ policy processes. The concentration of decision-making power appears to have lessened somewhat since the establishment of the new governance structure that replaced the OCCES in 2010. The new OCCD, in particular, has become more open and collaborative and has sought to build constructive relationships, and enter into partnerships, with a variety of different stakeholders who can contribute to REDD+ policy development and implementation. However, other aspects of the governance structure put into place in 2010 do not appear to be functioning as expected.

In addition, PNG went through a period of political turmoil between late-2011 to mid-2012, which saw Sir Michael Somare replaced as Prime Minister and other changes in key climate change positions, such as the Executive Director of OCCD and PNG's Special Envoy and Ambassador for Climate Change. It is unclear what level of commitment the new Prime Minister and government has to REDD+

### 4.3 Consultation processes and multi-stakeholder forums

PNG's rugged geography and linguistic diversity pose unique challenges for comprehensive national consultation processes. Since 2010, the OCCD have facilitated a number of consultation processes, aimed at reaching a wide range of stakeholders and communities in a country with limited television and newspaper coverage. These have included provincial consultations, school presentations, radio talkback shows, information stands at provincial markets, community briefings, and evening video screenings. However, other stakeholders have suggested that much more needs to be done in terms of consultation with customary landowners (Interview with NGO stakeholder, 1 June 2011). While this is likely to be a mammoth undertaking, in terms of time, financing

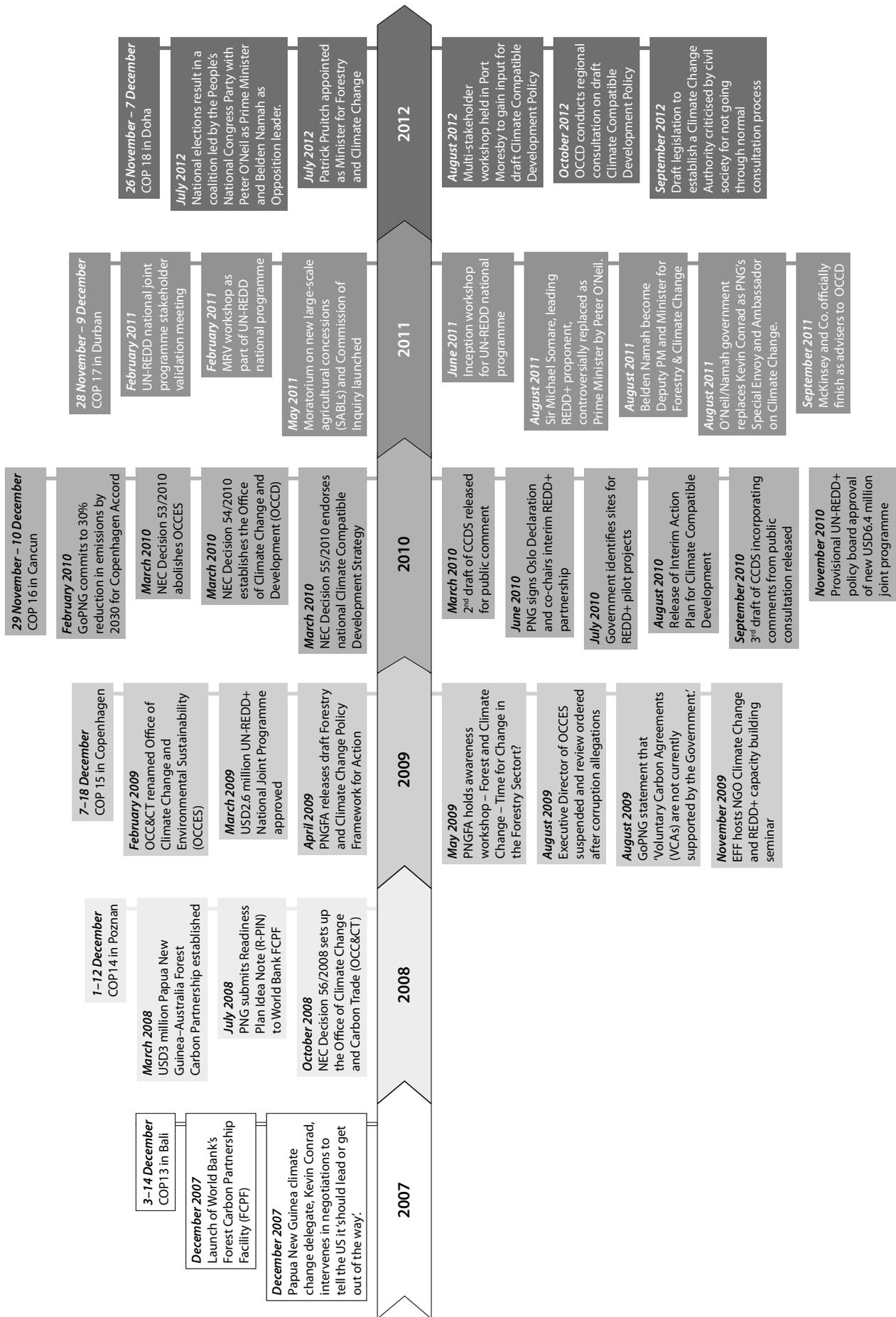


Figure 4. Chronology of REDD+ policy process in Papua New Guinea 2007–2012

and logistics, PNG's system of customary land tenure will require landowners to provide informed consent for any REDD+ initiatives on their land.

A lack of awareness and understanding of REDD+ may also be inhibiting the involvement of senior government officials in REDD+ policy processes. It has been noted that senior government officials have often disengaged from REDD+ consultation processes, possibly due to a lack of knowledge about REDD+ and a reluctance to show their ignorance in policy debates (Interview with NGO stakeholder, 3 November 2011). There is also some criticism that the membership of the TWGs is not sufficiently senior enough, particularly with respect to representatives of government agencies (Interview with research stakeholder, 24 May 2011) and that the frequency and timing of bi-weekly meetings may prevent some from participating (R. Turia personal communication). This may suggest that a broader process to build awareness and simplify the complex concepts associated with REDD+ may be needed to ensure that all stakeholders, from remote landowners to high-level officials, can meaningfully participate in the development of REDD+ policies.

The timing of a number of consultation activities has also been criticised by some stakeholders, including the release of draft REDD+ project guidelines for public comment over a Christmas period; and a lack of consultation prior to the submission of the second UN-REDD+ National Joint Program proposal. More recently, there was some criticism of a lack of transparency and opportunity for input to the drafting process of the climate change policy and legislation (K. Mondiai personal communication). However, the OCCD are continuing to show a much stronger commitment to public consultation and are actively seeking to engage with a range of stakeholders at the national and sub-national levels.

## 4.4 Future REDD+ policy options and processes

This section investigates future options for a national REDD+ policy in Papua New Guinea.

### 4.4.1 Type of REDD+

The CCDS identifies RIL and improved management of secondary forests as providing the

greatest opportunities for REDD+. Importantly, the strategy does not suggest a moratorium on logging in primary forests. The CCDS highlights revoking agricultural leases, particularly SABLs, and locating new oil palm plantations on non-forest land as also providing significant potential for REDD+. However, these proposals remain untested and will require significant political will and cross-sectoral coordination to realise.

The CCDS provides only a relatively superficial analysis of the potential for reducing emissions from forest loss associated with smallholder or subsistence agriculture, despite being a significant driver of deforestation and forest degradation in the country. While the CCDS identifies considerable scope for productivity improvements in smallholder agriculture, they also note difficulties of effecting change in agricultural practices, including a lack of capacity to disseminate knowledge, seeds and technology in PNG. Further research into opportunities for emission reduction from smallholder agriculture is urgently needed, particularly as it has the potential to provide important co-benefits, such as increased rural incomes and food security. The OCCD has commissioned a study to analyse the co-benefits (in addition to carbon emission reductions) that a REDD+ scheme could provide, in particular in livelihood improvements and biodiversity conservation (Interview with government stakeholder, 30 May 2011).

### 4.4.2 Financing

PNG has been a leading proponent of a market-based mechanism for REDD+ (Governments of Papua New Guinea and Costa Rica 2005). This contrasts with calls for a fund-based mechanism for REDD+, with strict conditions and safeguards, which has been proposed by other national and international actors (GCP 2008, Greenpeace 2008, ACFCC 2010). PNG supports a phased approach to allow for different degrees of REDD+ readiness amongst countries, initially utilising donor funds to strengthen capacity and support demonstration activities and eventually using global carbon market funds (GCP 2008). The GoPNG does not support voluntary carbon markets, instead advocating for a formal REDD+ mechanism under the UNFCCC.

The GoPNG has estimated that it will need up to USD1 billion to meet its target of reducing carbon emissions by 110 million tonnes during 2011–2015 (OCCD 2010). Funding requirements include an estimated USD71 million for readiness activities, USD18 million for pilot programme costs and USD26–811 million for performance-based payments (GoPNG 2010). PNG has so far been unable to secure funding of this magnitude, despite approaching the Norwegian government for funding similar to the USD1 billion deal it made with Indonesia (OCCD 2010).

Several bi-lateral donors, including Australia and the European Union, have expressed interest in funding REDD+ readiness activities through overseas development assistance, particularly for the development of a robust MRV system. In addition, the OCCD has received USD6.4 million from the UN-REDD+ programme for readiness activities, focusing on the development of an operational IPCC-compliant MRV system by 2013 and consultation processes. The GoPNG also submitted a Readiness Plan Proposal (R-PP) to the World Bank's Forest Carbon Partnership Facility (FCPF) in September 2012 (OCCD 2012b).

PNG has been critical of the delay in delivering pledged international REDD+ financing, and what they perceive to be endless processes and overly burdensome conditions (Somare 2010). While many donors have signalled their interest in providing funds to PNG for REDD+ readiness, concerns over governance, social and environmental safeguards, and the capacity of the OCCD to implement programmes appears to have been the main reasons for delays in pledged donor funds being disbursed (Babon 2011). Addressing these concerns, the draft Climate Compatible Development Policy proposes creating a Climate Compatible Development Fund with strong fiduciary regulations and managed and audited by private-sector fund managers with expenditure of all funds acquitted in a publicly accountable manner.

#### 4.4.3 Monitoring, reporting and verification (MRV)

PNG has advocated for calculating forest reference emissions levels (RELs) and forest reference levels (RLs) based on historical data only, but with the application of a country-specific development

adjustment factor to take into account expected future changes (UNFCCC 2011). This may have implications for REDD+ effectiveness if the RELs/RLs are set too high. The potential for 'moral hazard' in setting REL/RL for REDD+ has been identified, with Filer (2010: 151) suggesting there may be a perverse incentive for countries to 'exaggerate past, present and future rates of deforestation and forest degradation in order to claim a reward for reducing greenhouse gas emissions from a fictitious or exaggerated baseline'. Some commentators, including Filer (2010) and Greenpeace (2010, 2011) have suggested that the BAU projection used in PNG's CCDS is inflated.

The EFF has been critical of the GoPNG's narrow focus on monitoring of carbon stocks and flows within a proposed MRV system. EFF has called for information on social and environmental safeguards, including governance, to also be included in any MRV system and highlights the importance of designing a simple, effective and transparent system with independent monitoring and 'ground truthing' of data collected through remote sensing (EcoForestry Forum 2011). EFF has also noted that, despite a professed whole-of-government approach, there appears to be a lack of coordination among different government agencies currently working on MRV (EcoForestry Forum 2011), such as JICA support to PNGFA and the UN-REDD+ support to OCCD.

A recent report assessing national forest monitoring capacity across developing countries suggests that PNG currently has a very large capacity gap, in terms of being able to meet the reporting requirements for REDD+ needed under the UNFCCC (Romijn *et al.* 2012). The analysis found that while PNG has reasonable capacity for monitoring forest cover change and conducting forest inventories, its capacity for carbon pool reporting is low, as it is in many other countries, and the country faces a number of remote sensing challenges, such as cloud cover and topography, which can make MRV more difficult and costly (Romijn *et al.* 2012).

PNG has been an advocate of a stepwise approach to building MRV capacities, based on a phased approach to REDD+, with funding and other support (such as free access to satellite imaging) from the international community

(UNFCCC 2012). The country is currently receiving USD6.4 million from the UN-REDD+ programme to develop an IPCC-compliant MRV system by 2013 that will include: a satellite land monitoring system, a multi-purpose national forest carbon inventory, a national greenhouse gas inventory, and a national REDD+ information system (OCCD 2011).

Challenges remain in developing a rigorous MRV system in PNG – as they do in other parts of the world (McIntosh 2010, Romijn *et al.* 2012) – and significant investments in both human and technical capacity and training will be needed (Anonymous 2008, Filer *et al.* 2009, Howes 2009, Shearman *et al.* 2009, 2010, PNGFA 2011).

#### 4.4.4 Benefit sharing

Benefit sharing is likely to be a critical aspect in the success or otherwise of REDD+ in PNG. If customary landowners do not perceive that they are receiving a reasonable share of the benefits (either indirectly through investment in improved service provision or directly through cash payments) they are unlikely to participate in a REDD+ scheme. The proposed benefit-sharing arrangements for the country's first official pilot project, April Salumei, apportions 65% of benefits to landowners, 15% to the state and 20% to the developer. However, feedback from a series of sub-national consultations with landowners and other civil society representatives suggests there is an expectation that as much as 80–90% of benefits should go to local resource owners (The Nature Conservancy 2010).

Benefit-sharing mechanisms will need to account for PNG's unique tenure context, and provide for a majority of the benefits to flow back to the customary landowners who own the forest resources that REDD+ projects are designed to protect. If the mining and logging sectors are anything to go by, benefit-sharing arrangements at the local level are likely to be complex and involve a mix of payments (either at the household or community level), infrastructure and services. Getting agreement on the package of benefits and ensuring their equitable distribution is likely to be a major challenge for any REDD+ mechanism. A general lack of trust in, and lack of legitimacy of, the state in many rural and remote areas also means that landowners are unlikely to approve any benefit-sharing mechanism that sees the

government try to take what they perceive to be too high a proportion of the benefits from 'their' forests (The Nature Conservancy 2010, Binging 2011b).

#### 4.4.5 Proposed participation mechanisms

The CCDS and Interim Action Plan outline a national consultation process to build awareness and understanding of climate change at the local level in order to refine PNG's climate change and REDD+ strategies. A number of provincial consultations have already been conducted as well as other consultation processes (outlined in Section 7.3).

However, details on participation mechanisms for *future* decision-making with regards to REDD+ are scarce. The OCCD has drafted 'guidelines for stakeholder engagement and participation'. The draft 'REDD+ project guidelines' also provide an outline of expected consultations in the development of site-specific REDD+ projects. What is missing from these documents, however, is a clear process for stakeholder participation in the development of REDD+ *policies* – as opposed to site-specific REDD+ projects. At the moment, there is little involvement of customary landowners who may be affected by REDD+ in policy development. Most workshops and other forums discussing REDD+ policy are at the national level, with a few being held at the provincial level. However, this is likely to be inadequate given PNG's customary land tenure system, and the fact that landowners will need to approve any REDD+ activities on their land.

#### 4.4.6 Policies and institutions

As discussed in Section 4.2, PNG developed a governance structure for REDD+ in early 2010. A new institution, the OCCD, was established, with oversight by a National Climate Change Committee and input from a number of multi-stakeholder TWGs. However, the OCCD has struggled for legitimacy as the lead agency for REDD+ in PNG, with other actors questioning its role and mandate. Early incarnations of the Office essentially played a 'gate keeper' role, acting as a middle-man between carbon project developers and landowners. Recent incarnations have seen it focus more on policy and cross-sectoral coordination, while other agencies, such as the PNGFA, have been tasked with implementation of pilot projects. The OCCD will not administer

funds directly, but will coordinate funding for climate change mitigation and adaptation, including REDD+ readiness activities. This will include oversight responsibility for public, private and voluntary sector activities in climate change mitigation (GoPNG 2010b).

At the time of writing (March 2012), the CCDS was still the key climate change and REDD+ policy document for PNG. It acknowledges current capacity limitations, and notes that the policy frameworks, institutional structures and capacity for achieving the strategy's vision are currently insufficient.

The CCDS is being developed into a national Climate Compatible Development Policy (CCDP) and supporting legislation although this process has faced several set-backs and delays, including the political turmoil in late 2011/2012 when the country experienced a series of court challenges regarding the leadership of the government. The development of policies and legislation in PNG, particularly those regarding land and natural resources, is often a lengthy and sensitive process requiring strong leadership. It is unclear what level of support the CCDS and draft CCDP will receive outside the narrow group of actors responsible for its development.

#### **4.4.7 Policy learning**

Policies for tackling many of the drivers of deforestation in PNG are either lacking or ineffective. For example there are no policies to combat deforestation caused by forest fires, while policies for RIL and secondary forest management under the forestry Code of Practice are rarely adhered to. While logging is the main driver of forest degradation, other sectors that also drive deforestation and degradation, such as mining and agriculture, have not been actively involved in the REDD+ policy debate.

There have been few mechanisms to ensure that stakeholders have learned from pilot projects and other early REDD+ activities at the local level, largely because there is no policy in place. Initial attempts by OCCES to develop and promote forest carbon projects were perceived by some merely as attempts to secure donor funding for REDD+ or solicit overseas investments through carbon brokers under voluntary carbon markets (Callick 2009, Greenpeace 2010). Similarly, a lack of technical and practical knowledge of REDD+ resulted in failures in early attempts to develop pilot REDD+ projects, such as the April Salumei pilot project, which is now one of the official REDD+ pilot projects being managed by the PNGFA.

# 5 Implications for the 3Es

## 5.1 3Es, national policies and policy options

REDD+ policies and mechanisms will only succeed if they are able to tackle the drivers of deforestation and forest degradation, particularly large-scale logging and agricultural conversion. Current forestry policy is likely to result in an increase in forest *degradation* from large-scale logging, which has the potential to increase *deforestation* if areas degraded by logging are converted to other land uses. The CCDS suggests that carbon emissions from commercial logging could be substantially reduced by improved forest management – particularly RIL and secondary forest management, including the improved post-harvest management of regrowth and replanting.

Current agricultural policies promote a substantial increase in the area of land allocated for oil palm plantations, which will result in a corresponding increase in deforestation if forest areas are cleared to make way for plantations. The CCDS forecasts that the area under oil palm is likely to increase by 5–6% per annum in the period to 2030 (GoPNG 2010a). While a moratorium on and Commission of Inquiry into SABLs have been established, SABLs remain a key threat to the country's commitment to REDD+. In addition, smallholder/subsistence agriculture is a key driver of deforestation and forest degradation – at least from a carbon perspective – that has largely been ignored in the existing REDD+ debate. While this sector needs to be handled very delicately due to the reliance of over 80% of the population on subsistence agriculture, it also has the potential for significant co-benefits, such as poverty alleviation.

Fire is a small but significant contributor to deforestation and forest degradation, particularly during drought periods. However, the GoPNG's

CCDS highlights the challenges of changing cultural practices, such as the use of fire for hunting and clearing land, and sees only limited potential for reducing carbon emissions from forest fires (GoPNG 2010a). There has been limited discussion to date of ways to limit deforestation and forest degradation resulting from mining activities. A whole-of-government approach will be vital for ensuring that policies outside the forest sector do not undermine REDD+ efforts.

## 5.2 Evaluating the potential of REDD+ in PNG against the 3E criteria

This section evaluates likely REDD+ strategies in PNG in terms of effectiveness, efficiency, and equity – the 3E criteria (Angelsen 2009: 5; original emphasis):

- *Effectiveness* refers to the amount of emissions reduced or removals increased by REDD+ actions (i.e. are the overall climate targets met?)
- *Efficiency* refers to the costs of these emissions reductions or removal increases (i.e. are the targets being achieved at minimum cost?)
- *Equity* refers to the distribution of REDD+ costs and benefits (i.e. are the benefits shared and the costs allocated fairly?)

## 5.3 Governance and institutional context

A key challenge for effective, efficient and equitable REDD+ in PNG will be national ownership over the policy agenda. In the early stages of REDD+ policy development, decision-making was dominated by a small policy elite comprised of select government officials and international consultants (see Section 4.2). While the creation of the OCCD and new governance structure introduced in 2010 have opened up the policy process considerably, greater involvement by customary landowners, who own the forests that

REDD+ strategies are trying to protect, is still needed. While the draft CCDP acknowledges the need for a whole-of-government approach to climate change and REDD+, this will not be an easy task given strong sectoral interests and institutional path dependencies that have resisted improved cross-sectoral coordination to date.

#### **5.4 Tenure and property rights conditions**

PNG's system of customary land tenure means the design and implementation of a national REDD+ strategy will need to be firmly rooted in the interests, needs and aspirations of customary landowners. There is a broad consensus among REDD+ actors on the importance of equitable benefit-sharing arrangements. There is also general recognition that the majority of benefits should flow to landowners, but that a number of other parties would also have legitimate rights to claim benefits commensurate with their inputs or contributions to REDD+. However, it is at the implementation stage that careful attention will need to be paid to translate policies into outcomes on the ground. Many lessons, both positive and negative, can be learnt from existing benefit distribution in the forestry and mining sectors. Managing potential conflict within and between landowning communities is a key area of concern, and policies to manage and mitigate this will also be needed for REDD+ to be considered equitable.

#### **5.5 Monitoring, reporting and verification capacities**

If PNG is to participate in a performance-based REDD+ mechanism it will need to develop a robust and transparent system for monitoring and reporting forest carbon stocks and changes. In terms of cost-efficiency, building the requisite technical, human and institutional capacity to meet the UNFCCC reporting requirements in PNG is likely to be time consuming and expensive. A number of institutions are currently involved in activities relevant to a national MRV and clear delineation of roles and responsibilities and effective coordination, both horizontal and vertical, will be important in achieving an efficient MRV system. Indeed, the UN-REDD+ National Program document emphasises building on existing capabilities and resources with the objective to 'develop, shift and align resources to

institutions with the capacity to deliver' and meet quality standards (OCCD 2011: 32). Capacity building and support for local communities to undertake monitoring activities will also help keep MRV costs to a minimum, as well as providing benefits in terms of community ownership. However, there is little discussion of this in key government documents, which focus more on building technical capacity at the national level.

In terms of effectiveness, PNG is likely to face additional challenges in monitoring changes in carbon stocks, given the focus on sustainable forest management activities, as opposed to other emission reduction activities which may be easier to monitor (i.e. avoided deforestation, strict conservation, etc.). It is unclear what criteria will be used to measure sustainable forest management, and how emission reductions from activities such as RIL and secondary forest management will be calculated. In addition, mechanisms for dealing with leakage are likely to be needed given the current context of project-based REDD+. It is anticipated that the April Salumei pilot project, as the most advanced pilot project in the country, will start to provide some lessons for dealing with leakage.

In terms of equity, it will be important for local people to be involved in MRV. To meet the UNFCCC guidelines, a national MRV system will require a combination of remote-sensing and ground-based forest carbon inventory approaches. Local people are uniquely placed, in terms of location and traditional knowledge, to participate in collating ground-based inventory data. Several NGOs are already trialling community monitoring techniques and capacity building of local people and institutions (including provincial governments) to meaningfully participate in monitoring activities. This could greatly enhance the equity of a national MRV system.

#### **5.6 REDD+ financing and cost-benefit policy options**

The GoPNG has been a strong advocate for international financing for REDD+ through donor funds and regulatory markets, but has so far failed to attract significant investment, particularly from the private sector. Early governance issues affected PNG's credibility internationally, while domestic stakeholders raised concerns about transparency

and accountability of climate change financing and the need to provide funding to the sub-national level. The CCDP proposes consolidation of funding into a Climate Compatible Development Fund with strong fiduciary regulations and oversight. The CCDP also outlines the introduction of a carbon tax in PNG and proposes that revenue generated through taxes, levies and investment dividends will support grants and private sector investment for REDD+. The Climate Compatible Development Fund should support effective and efficient REDD+ by allowing multiple sources of funding to be managed and disbursed by a single organisation with appropriate transparency and accountability structures in place.

The CCDS suggests that sustainable forest management and RIL within commercial logging concessions have the greatest potential to provide low-cost emissions reductions and will play a large role in meeting the country's REDD+ objectives. This focus on commercial logging will have equity implications and may limit opportunities for local communities to be involved in, and benefit from, REDD+. There is also a distinct lack of trust in the government to properly manage and disburse funds at the local level.

## 5.7 Participation and vertical coordination

PNG's myriad languages and rugged terrain make landowner engagement in policy processes extremely challenging. A series of regional and provincial consultation workshops have been held to raise awareness of climate change, REDD+ and the draft national CCDP. In addition, the PNGFA has been undertaking consultations at the provincial level as part of its development of REDD+ pilot projects. In particular, the PNGFA has gone through an extensive consultation process involving the provincial governments, LLGs and respective local communities for the pilot REDD+ project in Central Suau, Milne Bay. However, more efforts will be needed to ensure that general awareness raising extends to the local level so that landowners are provided with the information they need to make informed decisions about their participation or otherwise in REDD+.

Coordination between the national and sub-national levels will be vital for effective, efficient and equitable REDD+ – but this is

not currently done well in PNG. Provincial governments have a significant mandate with respect to developing and implementing forest policies, but often do not have the resources, capacity or interest to take on this responsibility – which can leave significant gaps. LLGs are the closest level of government to site-specific REDD+ projects and are well placed to monitor activities. However, LLGs do not currently have decision-making authority over land use. Decentralisation of decision-making power to LLGs could greatly enhance the effectiveness, efficiency and equity of REDD+ – but only if this is matched with a corresponding increase in their capacity and resources.

## 5.8 Horizontal coordination

The incentives for forest clearance, particularly financial incentives, remain very strong in PNG. Forest conservation is rarely able to compete directly with the financial benefits available from logging or conversion to other land uses. Similarly, the potential financial benefits from REDD+ currently dominate the public discourse without much debate about the trade-offs that REDD+ will involve. Unrealistic expectations of windfall profits and characterisation as 'sky money' promote a belief that REDD+ is a way of getting money for doing nothing. There is a risk that, without a thorough understanding of the likely costs and benefits of REDD+ and how these costs and benefits will be distributed among different actors, REDD+ schemes will not achieve permanent emissions reductions.

In terms of cost-efficiency, the roles and responsibilities of different agencies with respect to REDD+ will need to be clarified. Implementation, monitoring and enforcement of regulations aimed at reducing deforestation and degradation are likely to be expensive – given the rugged topography and difficult access. The OCCD will need the support of existing institutions, particularly the PNGFA and DEC and civil society organisations, which have greater technical and personnel capacity to effectively implement and monitor REDD+ activities on the ground.

## 5.9 General outlook: 3E and prospective REDD+ policy outcomes

Many actors, even those supporting the concept of REDD+, feel that it is premature to be introducing

REDD+ in PNG. They suggest that a number of underlying governance issues should be addressed before pursuing REDD+ and for landowners to be given greater responsibility and a genuine choice in how they develop their forest resources. According to Brockhaus and Angelsen (2012), achieving effective, efficient and equitable REDD+ outcomes is likely to require *transformational change* within national policy arenas. They define

transformational change as ‘a shift in discourse, attitudes, power relations and deliberate policy and protest action that leads to policy formulation and implementation away from BAU policy approaches that directly or indirectly support deforestation and forest degradation’. This is the challenge for all REDD+-implementing countries – PNG is no exception.

# 6 Conclusion

This report has provided an overview of the drivers of deforestation and degradation in PNG, described the institutional and political economic context within which REDD+ is being developed, and outlined the evolution of a national REDD+ strategy and associated policy and legislation during 2008–2012. It highlights the opportunities and challenges of developing policies that can provide climate-effective, cost-efficient and equitable REDD+ outcomes for PNG.

While PNG has played a strong leadership role in promoting an international REDD+ mechanism under the UNFCCC, creating the necessary enabling conditions for REDD+ domestically has been challenging. The country's system of customary land tenure provides both enormous opportunities and challenges for effective, efficient and equitable REDD+. Customary landowners, as owners of the forests that REDD+ initiatives are designed to protect, are likely to be in a powerful position to claim a significant share of the benefits from REDD+. However, if they do not perceive they are receiving a fair share of the benefits, they are unlikely to participate in REDD+ schemes. Gaining the free, prior and informed consent of customary landowners, clarifying roles and responsibilities and developing equitable benefit-sharing mechanisms are a key challenge for REDD+ in PNG.

PNG has been plagued by poor forest governance for decades. Corruption and a lack of transparency and accountability are significant challenges for the country to overcome in order to achieve effective, efficient and equitable REDD+ outcomes. While there appears to be a growing national discourse around anti-corruption, powerful

vested interests and client–patron relationships have thwarted many previous attempts at forest policy reform and REDD+ is likely to face significant opposition from logging companies, agri-business, land speculators, and the politicians and others who benefit from the exploitation of the country's forests.

Political instability and capacity constraints within the public service also pose challenges to the smooth and steady development and implementation of REDD+ policies and mechanisms. Improvements in horizontal and vertical coordination among state actors will be needed to ensure policy consistency across economic sectors and between different governance scales. The ability of PNG to achieve real and permanent emissions reductions is the big question. While there is a strong coalition of actors that support the concept of REDD+ in PNG, BAU activities that drive deforestation and forest degradation persist. Despite the moratorium on and Commission of Inquiry into SABLs, these remain a key threat to effective REDD+ policy outcomes.

But the outlook for effective, efficient and equitable REDD+ in PNG need not be pessimistic. REDD+ has the potential to provide new incentives and mobilise the necessary support for the sustainable management of PNG's forests. Many different stakeholder groups support the concept of REDD+ in PNG and the GoPNG has shown genuine progress in developing a governance structure that can, and is, incorporating the needs and perspectives of multiple stakeholders.

# 7 References

- Accra Caucus on Forests and Climate Change (ACFCC). 2010 Realising rights, protecting forests: an alternative vision for reducing deforestation. Case studies from the Accra caucus: Accra caucus on forests and climate change.
- Allen, M., and Hasnain, Z. 2010. Power, pork and political patronage: decentralisation and the politicisation of the development budget in Papua New Guinea. *Commonwealth Journal of Local Governance* 6: 7-31.
- Anderson, T. and Lee, G. 2010 Introduction: understanding Melanesian customary land. *In: Anderson, T. and Lee, G. (eds.) In defence of Melanesian customary land, 2-26. AID/WATCH, Sydney.*
- Angelsen, A. and Rudel, T.K. 2013 Designing and implementing effective REDD + policies: A forest transition approach. *Review of Environmental Economics and Policy* 7: 91-113.
- Anonymous. 2008 PNG REDD readiness roadmap - Draft 16 December 2008.
- Ase, D. 2011a Helping the communities protect the environment and defend community based property rights. *Paper presented at: REDD+, PES and Benefit Sharing Workshop, 17-18 February 2011, Institute of National Affairs/Institute of Global Environmental Strategies, Central Province, Papua New Guinea.*
- Ase, D. 2011b Meaningful landowner participation in REDD projects: What do we mean by this? *Paper presented at: REDD+, PES and Benefit Sharing Workshop, 17-18 February 2011, Institute of National Affairs/Institute of Global Environmental Strategies, Central Province, Papua New Guinea.*
- Asia Pacific Action Group. 1990. The Barnett Report: A Summary of the Report of the Commission of Inquiry into Aspects of the Timber Industry in Papua New Guinea. Hobart: Asia Pacific Action Group.
- Australian Agency for International Development (AusAID). 2010 Forest Carbon Initiative Concept Development Grants. <http://www.ausaid.gov.au/keyaid/forest-carbon.cfm> (21 Jul. 2010).
- Ayius, A. and May, R.J. (eds.) 2007 Corruption in Papua New Guinea: towards an understanding of issues, The National Research Institute Special Publication No. 47. National Research Institute, Waigani.
- Babon, A., McIntyre, D., and Sofo, R. 2012 REDD+ politics in the media: a case study from Papua New Guinea. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
- Babon, A. 2011 Snapshot of REDD+ in Papua New Guinea. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
- Barcham, M. 2009 Building the capacity of Local Level Government in Papua New Guinea: strengthening the machinery of government. Synexe, Wellington, N.Z.
- Barker, P. 2011 Impact of the LNG project on agriculture and managing resource wealth. *In: Institute of National Affairs (ed.) LNG and Agriculture Workshop. Port Moresby.*
- Bingeding, N. 2011a Carbon abatement options under REDD in Papua New Guinea. *Presented at: Workshop/learning event on Reducing Emissions from Deforestation and forest Degradation (REDD+) in Papua New Guinea, 25 October 2011, Port Moresby.*
- Bingeding, N. 2011b Reducing emissions from deforestation and degradation of forests in Papua New Guinea: issues and options. National Research Institute, Port Moresby.
- Bourke, R.M. and Allen, B. 2009 Village food production systems. *In: Bourke, R.M. and Harwood, T. (eds.) Food and agriculture in Papua New Guinea. ANU E-press, Canberra: 194-245.*

- Brockhaus, M. and Angelsen, A. 2012. Seeing REDD+ through the 4 Is: a political economy framework. *In*: Angelsen, A., Brockhaus, M., Sunderlin, W. and Verchot, L. (eds.) *Analysing REDD+: challenges and choices*. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
- Brockhaus, M., Di Gregorio, M. and Wertz-Kanounnikoff, S. 2012 Guide for country profiles: Global Comparative Study on REDD (GCS-REDD) Component 1 on National REDD+ Policies and Processes. Center for International Forestry Research (CIFOR), Bogor, Indonesia.
- Bryan, J., Shearman, P., Ash, J. and Kirkpatrick, J.B. 2010 Estimating rainforest biomass stocks and carbon loss from deforestation and degradation in Papua New Guinea 1972-2002: best estimates, uncertainties and research needs. *Journal of Environmental Management* 91: 995-1001.
- Bun, Y., King, T. and Shearman, P. 2004 China's impact on Papua New Guinea's forestry industry. *Forest Trends*, Washington, D.C.
- Callick, R. 2009 The rush is on for sky money. *The Australian*, 5 September.
- Centre for Environmental Law and Community Rights (CELCOR) and Australian Conservation Foundation (ACF). 2006 *Bulldozing progress: human rights abuses and corruption in Papua New Guinea's large-scale logging industry*. The Centre for Environmental Law and Community Rights & the Australian Conservation Foundation, Melbourne.
- Centre for Environmental Law and Community Rights (CELCOR), The Bismark Ramu Group, Greenpeace Australia Pacific, and Forest Peoples Programme (FPP). 2011 Request for consideration under the urgent action/early warning procedure to prevent irreparable harm to indigenous people's rights in Papua New Guinea: 78th session of the committee on the elimination of racial discrimination. Centre for Environmental Law and Community Rights (CELCOR)/Friends of the Earth PNG, The Bismark Ramu Group, Greenpeace Australia Pacific, and the Forest Peoples Programme (FPP), Port Moresby.
- Conservation International. 2007 East Melanesian Islands. [http://www.biodiversityhotspots.org/xp/hotspots/east\\_melanesia/Pages/default.aspx](http://www.biodiversityhotspots.org/xp/hotspots/east_melanesia/Pages/default.aspx) (16 Mar. 2011).
- Corlett, R.T. 1987 Post-fire succession on Mt. Wilhelm, Papua New Guinea. *Biotropica* 19: 157-160.
- Dyer, N. and Counsell, S. 2010 *McRedd: How McKinsey 'cost-curves' are distorting REDD*. The Rainforest Foundation UK, London.
- Eco-Forestry Forum (EFF). 2007 Position paper on Reduced Emission from Deforestation and Degradation (REDD) in Papua New Guinea. The Papua New Guinea EcoForestry Forum Inc., Boroko.
- Eco-Forestry Forum (EFF). 2011 REDD+ and the challenges of developing a robust monitoring and verification system for PNG. *Post-Courier*, 27 July 2011: 27.
- Ellis, J.A. 1998 *Race for the rainforest II: applying lessons learned from Lak to the Bismarck-Ramu integrated conservation and development initiative in Papua New Guinea*. PNG Biodiversity Conservation and Resource Management Programme, DEC/UNDP, OPS-PNG/93/G31, Waigani.
- Food and Agriculture Organization (FAO). 2011 *State of the world's forests*. Food and Agriculture Organization of the United Nations, Rome.
- Filer, C. 1997 A statistical profile of Papua New Guinea's log export industry. *In*: Filer, C. (ed.) *The political economy of forest management in Papua New Guinea*. National Research Institute (NRI) and the International Institute for Environment and Development (IIED), Boroko.
- Filer, C. 2009 Land rights and benefit sharing arrangements for REDD projects in Papua New Guinea. Australian National University, Canberra.
- Filer, C. 2010 The impacts of rural industry on the native forests of Papua New Guinea. *Pacific Economic Bulletin* 25: 135-153.
- Filer, C. 2011 The new land grab in Papua New Guinea. *Paper presented at: International conference on 'Global Land Grabbing'*. 6-8 April 2011, Institute of Development Studies, University of Sussex.
- Filer, C. 2012a The Commission of Inquiry into Special Agriculture and Business Leases in Papua New Guinea: fresh details for the portrait of a process of expropriation. *Paper presented at: Second International Academic Workshop on 'Global Land Grabbing'*. 17-19 October 2012, Cornell University, Ithaca, NY.

- Filer, C. 2012b Why green grabs don't work in Papua New Guinea. *Journal of Peasant Studies* 39: 599-617.
- Filer, C. and Sekhran, N. 1998 Loggers, donors and resource owners. *In: Mayers, J. (ed.) Policy that works for forests and people.* National Research Institute (NRI) and International Institute for Environment and Development (IIED), Nottingham.
- Filer, C., Keenan, R.J., Allen, B.J. and McApline, J.R. 2009 Deforestation and degradation in Papua New Guinea. *Annals of Forest Science* 66: 12.
- Friends of the Earth Japan (FoE Japan)/ Global Environment Forum (GEF). 2011 Evaluation of social and environmental risks accompanying the procurement of timber from Papua New Guinea. *In: ITTO project PD391/06 REV.2(M) Promoting and creating market demand for certified tropical wood and verified legal tropical wood: Friends of the Earth Japan and Global Environment Forum.*
- Forest Trends. 2006 Logging, legality and livelihoods in PNG: synthesis of official assessments of the large-scale logging industry (Volumes I and II). Forest Trends, Washington D.C.
- Fox, J.C., Yosi, C.K., Nimiago, P., Oavika, F., Pokana, J.N., Lavong, K. and Keenan, R.J. 2010 Assessment of aboveground carbon in primary and selectively harvested tropical forest in Papua New Guinea. *Biotropica* 42: 410-419.
- Garrett, J. 2011 Landowners threaten to shutdown PNG LNG project. *Pacific Beat*, 26 May 2011.
- Garrett, J. 2012 Alarm over record PNG log exports from disputed land. *ABC Radio Australia*, 3 February 2012.
- Global Canopy Programme (GCP). 2008 *The little REDD book: a guide to governmental and non-governmental proposals for reducing emissions from deforestation and degradation.* Global Canopy Programme, Oxford.
- Gelu, A. 2010 Politics and governance. *In: Webster T. and Duncan, L. (eds.) Papua New Guinea's development performance 1975–2008.* National Research Institute, Boroko.
- Government of Papua New Guinea (GoPNG). 2004 *The medium-term development strategy 2005-2010: our plan for economic and social advancement.* Government of Papua New Guinea, Waigani.
- Government of Papua New Guinea (GoPNG). 2007 *National Agriculture Development Plan 2007-2016.* Ministry of Agriculture and Livestock (ed.), Port Moresby.
- Government of Papua New Guinea (GoPNG). 2010a *Climate-compatible development for Papua New Guinea.* Government of Papua New Guinea, Port Moresby.
- Government of Papua New Guinea (GoPNG). 2010b *Interim action plan for climate compatible development.* Office of Climate Change and Development, Port Moresby.
- Government of Papua New Guinea (GoPNG). 2010c *Papua New Guinea Development Strategic Plan 2010-2030: our guide to success* Department of National Planning and Monitoring (ed.), Port Moresby.
- Government of Papua New Guinea (GoPNG). 2010d *Papua New Guinea Medium Term Development Plan 2011-2015: building the foundations for prosperity.* Department of National Planning and Monitoring (ed.), Port Moresby.
- Governments of Papua New Guinea and Costa Rica. 2005 *Reducing emissions from deforestation in developing countries: approaches to stimulate action.* *In: Submission by the governments of Papua New Guinea & Costa Rica to the 11th Conference of the Parties to the UNFCCC.* United Nations Framework Convention on Climate Change (UNFCCC), 28 November – 9 December 2005, Montreal.
- Greenpeace. 2008 *Preserving paradise: the value of protecting Papua New Guinea's forests for climate.* Greenpeace International, Amsterdam.
- Greenpeace. 2010 *Papua New Guinea: not ready for REDD.* Greenpeace, Sydney.
- Greenpeace. 2011 *Bad influence: how McKinsey-inspired plans lead to rainforest destruction.* Greenpeace, Amsterdam.
- Greenpeace. 2012 *Up for grabs: millions of hectares of customary land in PNG stolen for logging.* Greenpeace Asia-Pacific, Ultimo, NSW.
- Hammermaster, E.T. and Saunders, J.C. 1995 *Forest resources and vegetation mapping of Papua New Guinea.* Commonwealth Scientific and Industrial Research Organisation CSIRO, Canberra.
- Hammond, D. 1997 *Commentary on forest policy in the Asia-Pacific region: a review*

- for Indonesia, Malaysia, New Zealand, Papua New Guinea, Philippines, Thailand and Western Samoa. Food and Agriculture Organization, Rome.
- Holzknicht, H. 2011 Carbon property rights and natural resources. *Paper presented at: REDD+, PES and Benefit Sharing Workshop*, 17-18 February 2011, Institute of National Affairs/ Institute of Global Environmental Strategies, Central Province, Papua New Guinea.
- Holzknicht, H. and Golman, M. 2009 Forest sector policy making and implementation. *In: May, R.J. (ed.) Policy making and implementation: studies from Papua New Guinea. State, Society and Governance in Melanesia Program in association with the National Research Institute, Papua New Guinea, Canberra.*
- Howes, S. 2009 Cheap but not easy: the reduction of greenhouse gas emissions from deforestation and forest degradation in Papua New Guinea. *Pacific Economic Bulletin* 24: 130-143.
- Hunt, C. 2010 Compensating for the costs of reducing deforestation in Papua New Guinea. *Pacific Economic Bulletin* 25: 64-88.
- Institute of National Affairs (INA) and Institute for Global Environmental Strategies (IGES). 2010 INA/IGES PNG Situation Assessment for REDD, REDD Capacity Building Workshop and Building Consensus, 1-3 March 2010, Gaire, Central Province, PNG: Summary.
- Independent State of Papua New Guinea. 1975 Constitution of the Independent State of Papua New Guinea. Port Moresby.
- Independent State of Papua New Guinea. 1995 Organic Law on Provincial Government and Local Level Government. Port Moresby.
- International Trade Strategies Global (ITS Global). 2011 The economic benefits of palm oil in Papua New Guinea. International Trade Strategies Global, Melbourne.
- International Tropical Timber Organization (ITTO). 2007 Achieving the ITTO objective 2000 and sustainable forest management in Papua New Guinea. Report of the diagnostic mission: International Tropical Timber Organization. [http://www.itto.or.jp/live/Live\\_Server/3632/E-C42-7\\_PNG\\_Mission\\_Full\\_Report.doc](http://www.itto.or.jp/live/Live_Server/3632/E-C42-7_PNG_Mission_Full_Report.doc) (1 Aug. 2010).
- Jackson, K. 2012 Internet emerges as a force in the PNG media 2011. [http://asopa.typepad.com/asopa\\_people/2011/12/internet-emerges-as-a-force-in-the-png-media.html](http://asopa.typepad.com/asopa_people/2011/12/internet-emerges-as-a-force-in-the-png-media.html) (29 Jun. 2012).
- Johns, R.J. 1989 The influence of drought on tropical rainforest vegetation in Papua New Guinea. *Mountain Research and Development* 9: 248-251.
- Kelatwang, S., Michalak, R., Velazquez, A., Mas, J.F., Palacio-Prieto, J.L. and Bocco, G. 2002 Forest inventory and assessment: country experiences and needs. *Unasylva (International Journal of Forestry and Forest Industries)* 53 (210): 36.
- Lang, C. 2010 Papua New Guinea plans to scrap REDD safeguards REDD-Monitor. Accessed at: <http://www.redd-monitor.org/2010/06/11/papua-new-guinea-plans-to-scrap-redd-safeguards/> on 1 July 2010.
- Laurance, W. 2010 Better governance to save rainforests. *Nature* 467 (7317): 789-789.
- Laurance, W.F., Lovejoy, T.E., Prance, G., Ehrlich, P.R., Raven, P.H., Cheyne, S.M., Bradshaw, C.J.A., Masera, O.R., Fredriksson, G., Brook, B.W. and Koh, L.P. 2010. An open letter about scientific credibility and the conservation of tropical forests. <http://www.scribd.com/doc/40046525/An-Open-Letter-about-Scientific-Credibility-and-the-Conservation-of-Tropical-Forests> (1 November 2010).
- Laurance, W.F., Kakul, T., Keenan, R.J., Sayer, J., Passingan, S., Clements, G.R., Villegas, F. and Sodhi, N.S. 2011 Predatory corporations, failing governance, and the fate of forests in Papua New Guinea. *Conservation Letters* 4: 95-100.
- LTS International. 2008 Capability and cost assessment of the major forest nations to measure and monitor their forest carbon for Office of Climate Change. LTS International, Penicuik, Scotland.
- Marshall, A.R. and Rau, M.T. 1999 Lower Ok Tedi and Middle Fly – estimate of current vegetation dieback and classification of flood plain vegetation – Summary version. Ok Tedi Mining Company, Port Moresby.
- May, R.J. (ed.) 2009 Policy making and implementation: studies from Papua New Guinea, *Studies in State and Society in the Pacific*, No. 5. State, Society and Governance in Melanesia Program in association with the National Research Institute, Papua New Guinea, Canberra.
- McCallum, R.D., and Sekhran, N. 1997 Race for the rainforest: evaluating lessons from an integrated conservation and

- development 'experiment' in New Ireland, Papua New Guinea. PNG Biodiversity Conservation and Resource Management Programme, DEC/UNDP, OPS-PNG/93/G31, Waigani.
- McIntosh, A. 2010 Deforestation and forest degradation in developing countries: a cautionary tale from Australia. The Australia Institute, Canberra.
- Ministry of Forests. 2009 Forestry and climate change framework for action. Ministry of Forests, Port Moresby.
- National Research Institute (NRI). 2007 Land administration, land dispute settlement, and customary land development. NRI Monograph No. 39. National Research Institute, Port Moresby.
- National Research Institute (NRI). 2010 Papua New Guinea district and provincial profiles. The National Research Institute, Port Moresby.
- Office of Climate Change and Development (OCCD). 2010 A fast-start REDD+ partnership between PNG and Norway. Office of Climate Change and Development, Port Moresby.
- Office of Climate Change and Development (OCCD). 2011 UN collaborative programme on reducing emissions from deforestation and forest degradation in developing countries (UN-REDD): National Programme Document. Office of Climate Change and Development, Port Moresby.
- Office of Climate Change and Development (OCCD). 2012a National REDD+ project guidelines. Office of Climate Change and Development, Port Moresby.
- Office of Climate Change and Development (OCCD). 2012b Readiness Preparation Proposal (R-PP) for Papua New Guinea. Office of Climate Change and Development, Port Moresby.
- Office of Climate Change and Environmental Sustainability (OCCES). undated National climate change policy framework for Papua New Guinea. Office of Climate Change and Environmental Sustainability, Waigani, NCD.
- Overseas Development Institute (ODI). 2007a What can be learnt from the past? A history of the forestry sector in Papua New Guinea. Overseas Development Institute, London.
- Overseas Development Institute (ODI). 2007b The current legal and institutional framework of the forest sector in Papua New Guinea. Overseas Development Institute, London.
- Payments for Ecosystem Services Expert Consultative Group (PESECG). 2011 Payments for environmental services in Papua New Guinea: a proposed PES system for PNG. Expert Consultation Group of the Community Carbon Forestry PNG project, Port Moresby.
- Pinard, M.A. and Putz, F.E. 1996 Retaining forest biomass by reducing logging damage. *Biotropica* 28: 278-295.
- Papua New Guinea Forest Authority (PNGFA). 2007 Forest Laws of PNG: policy and legislation. <http://www.forestry.gov.pg/site/page.php?id=50> (14 Mar. 2011).
- Papua New Guinea Forest Authority (PNGFA). 2009 Papua New Guinea Forest Authority 2009 Annual Report. Papua New Guinea Forest Authority, Port Moresby.
- Papua New Guinea Forest Authority (PNGFA). 2010 Final Technical Report LOA/RAP/2010/O25 – FAO Project Number: GCP/INT/988/JPN – Strengthening monitoring assessment & reporting on sustainable forest management in Asia (MAR-SFM). Papua New Guinea Forest Authority, Port Moresby.
- Papua New Guinea Forest Authority (PNGFA). 2011 Safeguarding the resource base: state of Papua New Guinea's forest and land. *Paper presented at: REDD+, PES and Benefit Sharing Workshop*, 17-18 February 2011, Institute of National Affairs/Institute of Global Environmental Strategies, Central Province, Papua New Guinea.
- Papua New Guinea Forest Industries Association (PNGFIA). 2010 Forests in ferment: Illegal logging activities in PNG. [http://www.fiapng.com/illegal\\_logging.html](http://www.fiapng.com/illegal_logging.html) (16 Aug. 2010).
- Romijn, E., Herold, M., Kooistra, L., Murdiyarsa, D. and Verchot, L. 2012 Assessing capacities of non-Annex I countries for national forest monitoring in the context of REDD+. *Environmental Science & Policy* 19–20: 33–48.
- Saulei, S. 1997 Forest Exploitation in Papua New Guinea. *The Contemporary Pacific* 9:25–38.
- Schlager, E, and Ostrom, E. 1992 Property rights regimes and natural resources: a conceptual analysis. *Land Economics* 68: 249-62.
- Sembajwe, I. 2010 Positioning population in sustainable development: the case of

- Papua New Guinea. National Research Institute, Boroko.
- Shearman, P. and Bryan, J. 2011 A bioregional analysis of the distribution of rainforest cover, deforestation and degradation in Papua New Guinea. *Austral Ecology* 36: 15.
- Shearman, P., Bryan, J., Ash, J., Hunnam, P., Mackey, B. and Lokes, B. 2008 The state of the forests of Papua New Guinea: mapping the extent and condition of forest cover and measuring the drivers of forest change in the period 1972-2002. University of Papua New Guinea, Port Moresby.
- Shearman, P.L., Ash, J., Mackey, B., Bryan, J.E. and Lokes, B. 2009 Forest conversion and degradation in Papua New Guinea 1972-2002. *Biotropica* 41:379-390.
- Shearman, P., Bryan, J., Ash, J., Mackey, B. and Lokes, B. 2010 Deforestation and degradation in Papua New Guinea: a response to Filer and colleagues, 2009. *Annals of Forest Science* 67: 300-304.
- Sillitoe, P. 2000 Social change in Melanesia: development and history. Cambridge University Press, Cambridge.
- Somare, M. 2009 Parliamentary statement: Carbontrading and Office of Climate Change and Environmental Sustainability. *The National*, 5 August 2009.
- Somare, M. 2010 Speech given by Rt. Hon. Grand Chief Sir Michael T. Somare, Prime Minister, Papua New Guinea at the Oslo Forest Climate Conference, 26 May 2010.
- Tararia, A. and Ogle, L. 2010 Incorporated land groups and the registration of customary land: recent developments in PNG. *In*: Anderson, T. and Lee, G. (eds.) *In defence of Melanesian customary land*. AID/WATCH, Sydney.
- Taylor, R. 1997 The state versus custom: regulating Papua New Guinea's timber industry. *In*: Filer, C. (ed.) *The political economy of forest management in Papua New Guinea*. National Research Institute, Boroko, PNG.
- The Nature Conservancy. 2010 Voices and choices: local perspectives on the building blocks required for a future national REDD framework that will deliver incentives to customary land owners for forest carbon protection. The Nature Conservancy, Madang, Papua New Guinea.
- The World Bank. 2006 Strengthening forest law enforcement and governance: addressing a systemic constraint to sustainable development. Environment and Agriculture and Rural Development Departments. The World Bank, Washington.
- Transparency International. 2009 Global corruption report 2009: corruption and the private sector. Cambridge University Press, Cambridge.
- Transparency International. 2010 Corruption Perceptions Index. Transparency International. Accessed at: [http://www.transparency.org/regional\\_pages/asia\\_pacific/resources/surveys\\_and\\_indices](http://www.transparency.org/regional_pages/asia_pacific/resources/surveys_and_indices) on 9 March 2011.
- Transparency International. 2011 Global corruption report: climate change. Earthscan, London.
- Trines, E., Skutsch, M. and Dam, P. 2008 Payments for environmental services in Papua New Guinea. Expert Consultation Group of the Community Carbon Forestry PNG project, Port Moresby.
- Turner, R. 2010 A golden chainsaw for Papua New Guinea. *In*: Greenpeace Australia Pacific blog, <http://www.greenpeace.org.au/blog/?p=2579> (26 October 2010).
- United Nations Framework Convention on Climate Change (UNFCCC). 2006 Item 6 of the provisional agenda: Reducing emissions from deforestation in developing countries. *In*: 24th session of the Subsidiary Body for Scientific and Technological Advice (SBSTA), 18-26 May 2006, Bonn.
- United Nations Framework Convention on Climate Change (UNFCCC). 2011 Submission by the Coalition for Rainforest Nations: Views on modalities relating to forest reference emission levels and forest reference levels of the activities referred to in paragraph 70 of decision 1/CP.16. [http://unfccc.int/files/methods\\_science/redd/application/pdf/final--submission\\_of\\_views\\_sbsta34\\_reference\\_levels.pdf](http://unfccc.int/files/methods_science/redd/application/pdf/final--submission_of_views_sbsta34_reference_levels.pdf).
- United Nations Framework Convention on Climate Change (UNFCCC). 2012 Submission by the Coalition for Rainforest Nations: Views on robust and transparent national forest monitoring systems as referred to in paragraph 71c of decision 1/CP.16 as requested by the SBSTA at its 35th session on 29 February 2012. [http://unfccc.int/files/methods\\_science/redd/submissions/application/pdf/20120410\\_rainforestcoalition\\_subm\\_sbsta\\_redd\\_monitoringsystems.pdf](http://unfccc.int/files/methods_science/redd/submissions/application/pdf/20120410_rainforestcoalition_subm_sbsta_redd_monitoringsystems.pdf).

- United Nations Framework Convention on Climate Change (UNFCCC). Undated Project 0279: Lihir Geothermal Power Project. <http://cdm.unfccc.int/Projects/DB/DNV-CUK1143246000.13/view> (29 Sep. 2010).
- van Helden, F. 2005 Lessons learned in community-based conservation in Papua New Guinea. Adelbert Mountains Forest Conservation Program of The Nature Conservancy in partnership with the WWF Forests of New Guinea Program. Unpublished project report.
- West, P. 2006 Conservation is our government now: The politics of ecology in Papua New Guinea. Duke University Press, Durham.
- World Growth. 2011 How REDD will impoverish the developing world and reduce biodiversity: an Indonesian case study. World Growth, Arlington, VA.
- Wood, M. 1997 The Makapa timber rights purchase: a study in project failure in the post-Barnett era. In: Filer, C. [ed.] The political economy of forest management in Papua New Guinea. NRI and IIED. 84-108.
- Wunder, S. 2003 Oil wealth and the fate of the forest. *In*: Hanley, N. (ed.) Routledge explorations in environmental economics. Routledge, London.
- Wynn, G., and S. Creagh. 2009 Carbon markets showing cracks. *The National*, 4 June 2009.
- Yala, C. (ed.) 2010 The genesis of the Papua New Guinea land reform program: selected papers from the 2005 National Land Summit, The National Research Institute: Monograph No. 42. The National Research Institute, Port Moresby.



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This report provides an overview of the context for REDD+ in Papua New Guinea. It describes the main drivers of deforestation and degradation, the institutional and political economic context within which REDD+ is being developed, and maps the evolution of a national REDD+ strategy and associated policy and legislation during 2008–2012. It highlights the opportunities and challenges of developing policies that can provide climate-effective, cost-efficient and equitable REDD+ outcomes for Papua New Guinea.

Papua New Guinea's system of customary land tenure provides both enormous opportunities and challenges for REDD+. Gaining the free, prior and informed consent of customary landowners who own the forests that REDD+ initiatives are designed to protect and developing equitable benefit-sharing mechanisms will be a key challenge. Corruption and a lack of transparency and accountability within the government are significant problems for the country to overcome. Political instability and capacity constraints within the public service also pose challenges to the smooth and steady development and implementation of REDD+ policies. While there appears to be a growing national discourse around good governance and anti-corruption, a complex political economy has thwarted many previous attempts at forest policy reform in the country and REDD+ is likely to face significant opposition from those who currently benefit from the unsustainable exploitation of the country's forests.

But the outlook for REDD+ in Papua New Guinea need not be pessimistic. Many different stakeholder groups including government agencies, civil society organisations, donors, private sector actors and research institutes support the concept of REDD+ in Papua New Guinea. Despite some early missteps in terms of broad stakeholder engagement and national ownership over the policy process, the government has shown genuine progress in developing a transparent and accountable governance structure that can, and is, incorporating the perspectives of multiple stakeholders.



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