

CHALLENGES FACED IN SUSTAINABLY MANAGING THE TROPICAL RAINFOREST IN PAPUA NEW GUINEA

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Abstract: Papua New Guinea houses the largest remaining tropical rainforest in the Asia Pacific Region yet it is under grave threat from ongoing deforestation and degradation. This article looks at the challenges faced in introducing an international treaty to protect tropical rainforests particularly as almost all tropical rainforests are housed in developing countries due to their geographical position between the Tropics of Capricorn and Cancer. Lack of effective legal governance, poor development of land laws and the presence of systemic corruption prevent its sustainable management. In PNG the manipulation of tribal landowners and the continuing disregard by local and foreign enterprises is causing the continual destruction of the rainforest. Customary ownership resides with over 800 different tribes. Few surveys have been undertaken to determine ownership boundaries as rainforest territories pass from one generation to the next. It is therefore not surprising that under these circumstances corrupt dealings are regular events whereby aggressive logging companies enter into contracts with naïve tribes people depriving the tribes of their timber rights. This article explores these issues and the underlying reasons for them and argues that a rainforest treaty is essential if rainforests are to survive in their present form.

Keywords: Corruption, Deforestation, Degradation, Papua New Guinea, Rainforest

INTRODUCTION

There is a need to introduce an international tropical rainforest regime in the form of a treaty as the current international forest regime is fragmented and complex and has achieved very little in the way of forest protection. Therefore a treaty that focuses on a specific type of forest, in this case rainforests is more likely to be effective. However local problems must be taken into account when drafting such an instrument. This article looks at the numerous and seemingly insurmountable problems faced in Papua New Guinea (PNG) in protecting the rainforest. The exploitation and gradual destruction of this rainforest is attributable to poorly administered forestry laws, systemic corruption, manipulation of tribal landowners and a continuing disregard by local and foreign enterprises for what is a part of the 'global commons'.

PNG like many other developing countries housing large tropical rainforests does not have a developed system of land registration so that legal title is more often than not unregistered and boundaries unsurveyed.¹ As customary ownership resides with the numerous tribes, the nature of such ownership

varies. Few surveys have been undertaken to determine ownership boundaries and rainforest territories have passed from one generation to the next without any form of discernible legal ownership.

ⁱⁱ It is therefore not surprising that under these circumstances corrupt dealings are regular events whereby aggressive personnel representing logging companies and naïve tribe's people enter into what are often bogus contracts. Some disputes over logging rights arise where it cannot be determined whether the PNG Forestry Authority itself and logging companies have actually entered into a contract with the rightful customary owners.ⁱⁱⁱ In 2007 the PNG Forest Industries Association (FIA) acknowledged that:

'weaknesses in governance and corruption have been an obstacle to the growth of the forestry industry and have allowed opponents of forestry to blame the private sector for failings in government. The lack of silvicultural investments on the ground by the Government from the reforestation levy paid by forestry company's means regeneration activity is sub-optimal.'

Extent and loss of PNG's rainforest

The baseline for assessing PNG's deforestation and degradation rate can be obtained from the first mapping period which took place in 1972.^{iv} The chart reproduced below gives an indication of the extent of rainforest coverage loss over a 30 year period. Noticeably there has been a steep rise in deforestation and degradation after 1990.^v It is estimated that 6.6 per cent of the rainforest has been destroyed since

1990,^{vi} with 15 per cent, degraded due to logging activities.^{vii} The rainforest is now estimated to cover 28,200,000 ha, i.e. 55.7 per cent of PNG's land area which comprises 80 per cent of PNG's total forest estate.^{viii}

On average, 1.4 per cent of the rainforest is lost each year with the majority of deforestation and degradation occurring in the lowland rainforest due to its accessibility resulting in plantations used for industrial logging.^{ix} Logging in the eastern half of the island is attributable to large scale agriculture such as coffee, cocoa, coconuts, tea, vanilla and palm oil plantations.^x A further threat to the rainforest is the need for cleared land for agriculture as a result of the rapidly expanding population which has increased by 2.2 per cent in urban areas and 3.9 per cent annually in rural areas.^{xi} Figure 1 below shows the increase in deforestation between 1972 and 2002. Overall annual deforestation rates have escalated to such an extent that if they continue at the current rate, the entire rainforest is likely to disappear within the next 20 years along with the medicinal plants on which the tribal population depend.^{xii}

The mining of gas, oil and other minerals by foreign companies is also having a detrimental effect on the health of the rainforest. For example, considerable damage to the Ok Tedi and Fly Rivers and surrounding rainforest occurred and continues to occur in Western Province as a result of pollution caused by the negligent operation of the Bilton OK Tedi copper mine.

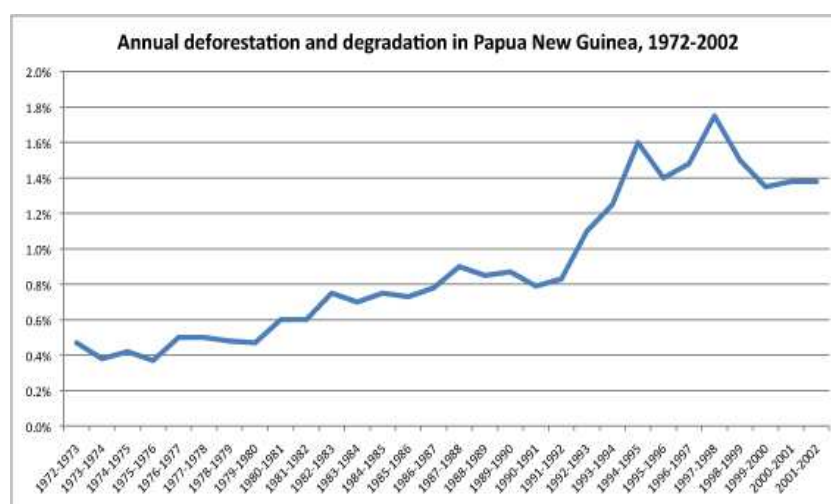
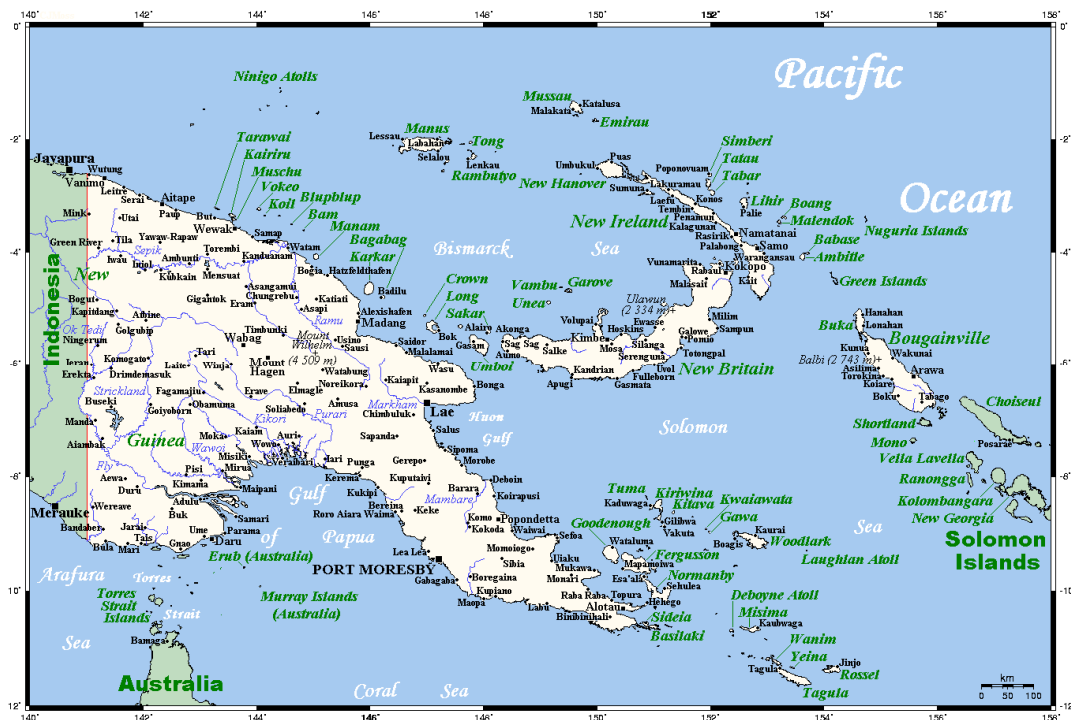


Figure 1: Annual deforestation and degradation in Papua New Guinea, 1972-2002



Map 1^{xiii} : Showing islands of PNG, New Britain, New Ireland and Bougainville and smaller surrounding island within PNG’s jurisdiction



Map 2: Papua New Guinea

The mining project was a partnership comprised of BHP 52 per cent, the PNG government 30 per cent and a Canadian Metal Corporation 18 per cent.^{xiv} Mining commenced in 1984 and the pollution of the Ok Tedi and Fly Rivers and destruction of 2000 kms of surrounding rainforest occurred as a result of 165,000 tons of tailings being dumped daily in the river which contained high levels of copper, lead and zinc. The traditional forest owners sued BHP for AU\$4 billion in the Supreme Court of Victoria.^{xv} They claimed for loss of amenity and ability to derive subsistence from the injured land, rivers and floodplains. An out of court settlement was reached in 1996 when BHP conceded that the mine had caused damage to over 1,500 square kms of the land area and the surrounding river systems. The impact of the damage is likely to last for at least 50 years. As a result the Prime Minister of PNG asked the World Bank to evaluate the mine resulting in a report that found the project so destructive to the environment that it should be closed.^{xvi} BHP then transferred 52 per cent of its ownership to an independent trust company that supported the project and the mine continues to operate.^{xvii} The customary owners returned to court in 2000 alleging that the out of court settlement that had taken place in 1996 had not resulting in the halting of the pollution to the rivers. However they were advised by their legal advisors that there was insufficient evidence available to mount a further case against BHP and the case was withdrawn.^{xviii} As recently as 2011, a spill of pyrite from the mine contaminated the Fly River due to a break in one of the pipelines.^{xix} Dr Danaya the Governor of Easter province accused BHP of compromising the local landowners over the years because they knew these people were poor and needed money. He pointed out that money cannot buy lives in PNG.^{xx} Though the mine will close in 2013 it leaves behind substantial environmental damage to both the river systems and the rainforest in this province.

Other negative effects on the rainforest arise from ongoing timber operations. PNG's Fourth National Report to the Convention on Biological Diversity in 2010 states that ongoing timber operations are having a detrimental effect on the rainforest in West New Britain, Willaumez Peninsula, Baining Mountains, the Lelet Plateau, Southern Bougainville Island, Eastern Bougainville, Saruwaged and Cromwell Ranges, Gilluwe, Adelbert Mountains, Owen Stanley Highlands.^{xxi}

Illegal logging is rife in PNG due to corrupt practices in both government and non-government circles. In

2006 the World Bank reported that 70 per cent of PNG's log exports came from illegal sources.^{xxii} This is not surprising as PNG's timber exports are not certified by the FSC so there are few controls in place to ensure timber comes from legitimate sources.^{xxiii} Ted Mamu, a Sustainable Forestry Officer employed by the WWF who is based in PNG states that: *'There are no certified forests in PNG because our logging industry has buried its head in the sand and refuses to come into the modern world of forestry by certifying its operation. It's unbelievable that our industry still practices the type of logging which even the modern global forest industry agrees is unsustainable, highly destructive and given little economic return in the long run'*.^{xxiv}

Though the PNG government has in place a legal framework to administer its forest policy, poor governance by PNG's forestry ministry has resulted in the ongoing demise of the PNG rainforest. Attempts by international organizations such as the World Bank to undertake projects that control and lower deforestation rates have for the most part failed. For example the World Bank withdrew from a project in 2006 due to lack of compliance by the PNG government. Though substantial foreign aid is received by the government such as AU\$300 million on an annual basis from Australia, the FIA acknowledges that environmental aid to PNG has to date only shown piece meal results with no long term solutions.^{xxv} Based on its poor response to international aid, the question has to be asked whether UN backed Reducing Emissions from Deforestation and Degradation (REDD) projects will result in any positive and measurable outcome.

Overview of PNG's demography, the rainforest and its people

Map 1 reproduced above show the position and extent of PNG's land area. The country is situated in the Oceania region and encompasses the main island, the islands of New Ireland, New Britain, Bougainville and six hundred other much smaller islands.^{xxvi} The main island can be likened to the shape of a dragon with a body and tail. It is 2414 kms long and 800 kms wide at its widest point. The total land area comprises 452,860 sq. km.^{xxvii} It is surrounded by the North Pacific Ocean, the South Pacific Ocean, the Bismarck Sea and the Coral Sea. As it situated just 100 kms from the north of the eastern half of Australia, there is a similarity in forest types, vegetation and fauna.^{xxviii}

PNG's rainforest is located in mountainous areas as shown on map 2 reproduced above. Holzknacht and

Golman see this as a protective factor for while there are millions of ha's of rainforest timber in situ, the diversity of tree species and low density of commercially known species located in inaccessible areas makes it difficult for loggers to harvest.^{xxxix}

The PNG ranges do not form a continuous line but are a closely spaced chain of mountains ranges that run along the length of the coastline making the terrain difficult to access.^{xxx} The rainforest is spread over high peaks rising to more than 3,000 metres above sea level. Its highest peak at Mt Wilhelm rises to 4509 metres.^{xxxi}

PNG's rainforest is one of the world's four remaining tropical rainforest wilderness areas. It stretches over two thousand kms in the central mountain range. It is comprised of high altitude cloud and montane forests and lowland mixed forests with mangroves in the lower land.^{xxxii} The rainforest has 42 terrestrial high biodiversity areas and 13 important wetland habitats.^{xxxiii} To date the different recorded species are as follows: 11,000 to 16,000 vascular plant species,^{xxxiv} 200 species of ferns and over 1,500 species of trees; half of which are native to PNG.^{xxxv} There are 13 species of turtles, 314 species of fish, 150,000 species of insects, 641 species of amphibians and reptiles, over 276 species of mammals, 445 species of butterflies and 740 species of birds.^{xxxvi} It has the largest number of crocodile species in the world.^{xxxvii} Fifty three per cent of the bird species are peculiar to PNG and 90 per cent of the world's birds of paradise live in the rainforest.

The rough and inaccessible terrain has meant that hundreds of tribes have managed to live in relative remoteness up until the present day. By comparison Australia is a relatively flat country comprised of plains and deserts with very few mountains. As a result the Australian rainforest was deforested and degraded with relative ease by the European settlers who decimated the Aboriginal tribes living in the rainforest because they were seen as an impediment to colonial progress and regarded as dangerous.

Though the population of PNG is small at just over 6 million,^{xxxviii} it is one of the most heterogeneous in the world housing several thousand separate communities some with fewer than a hundred people and each having different customs and traditions. There are over 800 Papuan and Melanesian tribes in PNG who speak over 800 indigenous languages between them amounting to one third of the world's total languages.^{xxxix} Interestingly about only 350 to 450 of those languages are related to one another. The most prevalent language, Enga, is spoken in the highlands by about 130,000 people housing 40 per cent of the population.^{xl} The other main languages are English, Tok, Pisin and Motu.^{xli}

PNG is a poor developing country where 85 per cent of the population live in rural communities engaged in agricultural and other farming activities and living off the products of the rainforest.^{xlii}

Land Ownership

99 per cent of PNG's rainforest has for centuries and still is collectively owned by its tribal population. This is provided for in section 53 of the PNG Constitution 1975 which provides that customary owners' rights should not be determined over customary land.^{xliii} According to the Constitution, the rainforest cannot be logged without the consent of the tribal owners. However due to numerous laws passed by the PNG government in conjunction with corrupt activities, those rights have gradually been eroded.^{xliiv} The *Mining Act 1992* and *Oil and Gas Act 1998* does just that which explains why the pollutive Ok Tedi mine went ahead. The *Land Act 1996* and *Land Acquisition (Development Purposes) Act 1974* deals with the compulsory acquisition.^{xliv} The government can acquire an easement in the land and a lease and lease back the land for special agricultural and business purposes. A notice sent to landowners for compulsory acquisition tells them they are legally required to negotiate. When a dispute arises it is either mediated locally by a village land mediator or heard at the District Land Court. As could be expected there were numerous appeals against these acquisitions and the *National Land Registration Act 1977* tried to reduce the number by excluding appeals to a higher court. Fortunately on appeal the National Court found there was a right to appeal to the National Court under the Constitution and the common law and as a result a report undertaken on behalf of AUS aid Australia found that compensation has been awarded as a result.

As the *Land Act 1996* provides for the purchase or lease of tribal land through an agreement between customary land holders and the State, corrupt politicians and forests officials who are in cohorts with large privately owned foreign logging companies inevitably take advantage of the customary landowners. Company agents manipulate customary owners into agreeing to the selling of timber rights on their land through promises of royalty payments which often never eventuate.^{xlvi} In effect forestry rights derived from customary owners are remunerated poorly because the harvesting rights cede to the PNG government which then contracts with logging companies.^{xlvii} Mongabay reports that in 2005 a Malaysian based Rimbunan-Hijau has been using bribes and terror tactics to secure leases from local tribes in order to gain control of 1.6 million ha in the Western province.^{xlviii} Even the PNG Forest Industries Association admits that corruption in the

government sector of PNG is a major problem for the forest industry due to loopholes in the legislation along with a significant degree of discretion in PNG's forestry laws and regulations which provide opportunities for officials to act corruptly.

History of the destruction of PNG's rainforest

The current situation whereby customary land is taken from the customary owners has a long and chequered history in PNG. The main island of PNG was split into two parts in the early 19th century when the Dutch controlled the West and Britain and Germany the East. In 1906 Australia took over from the British and in 1921 following World War 11, Germany lost control of its colony in the north east and it reverted to Australian control until independence in 1975. The Western part of the Island called Irian Jaya is under the control of the Indonesian government.^{xlix}

Early colonisation in the South Pacific region is one of brutality and cruelty on both sides. Osmar White describes the practices of various tribes taking prisoners from other tribes and practicing cannibalism. In the 1890's white prisoners captured by Goiarabari tribesmen were eaten resulting in the British colonists killing them as a reprisal.¹

Though customary law prevailed, when the British gained control of south eastern New Guinea in 1884, customary land tenure systems were ignored and the tribes were not permitted to manage the rainforest. Their only involvement was employment as labourers.^{li} Up until 1922 a forest policy did not exist in PNG and silviculture absent. Timber cutting was legalized under the *Timber Ordinance 1922*. In 1925 Charles Lane-Poole, an advisor to the Australian government, could see problems emanating from unsustainable deforestation and recommended regulating access to the rainforest in order to stop ongoing rampant deforestation however the recommendation was never implemented.^{lii}

The increasing deforestation of accessible rainforest areas saw an increase in sawmilling which resulted in the passing of the *Forestry Ordinance 1936* in an effort to control forestry in PNG. The Ordinance provided that forest lands could be purchased from traditional owners and placed in the hands of the government who could then create and manage timber reserves. This meant that timber rights could be purchased and logging permits and licences issued.^{liii} Extracting timber from customary owners was achieved through a Timber Rights Purchase Agreement (TRP) which permitted the purchase of timber rights from customary landowners but not the land. Most logging companies in the colonial period were Australian based or owned.^{liiv}

In 1938 the first Forest Service was established with the appointment of two Australian foresters whose role was to undertake control of PNG forestry. However World War 11 brought about changes in the way timber cutting was managed and between 1944 – 1946 forestry came under the control of the Australian Army. When the first director of forests John Macadam was appointed in 1949 approval was given to undertake a research, conservation and management plan however this was never implemented. Then in 1951 TRP's were re-introduced. Regulation 4 of the Forestry Ordinance 1936-7 and the Forestry Ordinance 1950 permitted an application for a timber permit. Once a local Forestry Officer had undertaken a survey of the required area, the Director of Forests could recommend the purchase or otherwise of the area. Under this agreement landowners were paid instalments until the area was logged by an investor. In 1951, Percy Spender, the Australian Minister for Territories, ramped up the production of timber for post war reconstruction and land clearing for agricultural purposes.^{liv} This continued until 1968 when the Liberal Party Minister, Paul Hasluck, instigated a five year program to reserve 4 million ha of permanent forest estate within 10 years and 10 million ha within 20 years designed to instigate botanical collections and identification and set up a research timber preservation and refutation programme.^{lvi}

In 1971 the existing Forestry Ordinance was incorporated into the new *Forestry Act 1971*.^{lvii} Exploitation of customary owners continued as the *Act* mandated that the state could acquire timber rights from customary owners under TRP's and though the tribal owners received royalties, they were not permitted to have any say in how the rainforest was logged with the result that destructive logging practices were undertaken and the rainforest substantially degraded.^{lviii} Australian companies were thus able to purchase timber rights from the customary owners though the ownership of the land did not pass.^{lix} Timber authorities were also permitted to obtain the right to purchase a limited quantity of timber directly from a customary owner through the PNG Timber Authority.^{lx} Though designed to provide some protection for land owners, the *Act* ensured there was no conflict with national interests or economic development. Though the consent of the Minister for Forests had to be obtained it could only be refused on limited grounds.^{lxi} As could be expected corruptive practices resulted and many rights were sold on to foreign logging companies. The effect of the *Act* was that landowners could apply to have an area declared a Local Forest Area and thereby sell timber rights as they wished with the result that local tribes saw the chance to

make money and were inevitably taken advantage of. It ultimately became apparent that the proper management of the forest was being undermined by this *Act*.^{lxii} The government established a National Forest Policy drafted by professional foresters.^{lxiii} This policy contained numerous motherhood statements that sought to protect the forest estate yet at the same time promoted forest processing industries.^{lxiv} It stated that: (a) Forest resources of PNG were to be managed as a national asset in the interests of present and future generations (b) Forest areas were to be preserved, developed and maintained through reforestation so as to meet domestic needs and also allow for full advantage to be taken of export opportunities (c) The management and protection of watersheds, control of soil erosion, conservation of animal and plant communities and the use of forests for recreational purposes was promoted (d) The development of permanent forest industries was encouraged (e) Laws were to be introduced and finance provided in order to manage the nations forest resources.^{lxv}

The National Forestry Policy did not include a provision that provided for the training of personnel to manage the rainforest nor did it assign resources to promote silviculture.^{lxvi} G. L. Carson, a forestry expert in Australia, expressed his concern over the policy stating there was a need for central control of the forestry industry so as to prevent local tribes from selling off the rainforest.^{lxvii} Then in 1973 *The Forest Industries Council Act* was passed that established the Forest Industries Council paid for by a levy on large forest producers and royalty payments from projects. Its role was to advise and assist in the management of forest products. The Australian government attempted to protect the rights of the customary owners by passing the *Land Groups Incorporation Act 1974* which facilitates landowner groups incorporating as Incorporated Land Groups (ILG). Each ILG is required to identify its property through an agreement with neighbouring tribes. Though the land cannot be legally registered the ILG's interest in the land is recorded.^{lxviii} However the *Act* is relatively ineffective for as the Overseas Developing Institute (ODI) points out, it states that the Registrar of Land Groups should assist communities in negotiations with logging companies. In practice this was undertaken by the Forestry Authority as the Registrar lacked the capacity to do so. The other problem is that the Registrar of the Land Titles Department in the Department of Lands and Physical Planning is not able to process the claims due to lack of trained personnel and other capacities necessary to record the ILG's. The result has been that logging projects proceed without

landowners obtaining the legally mandated ILG certificates.^{lxix}

In 2003/2004 the ODI undertook a review of the system which concluded: '*There needs to be some form of direction (perhaps regulations) regarding a logging project wide body which properly represents the Incorporated Land Groups. In addition it behoves the State as part of its responsibility for the wellbeing of its citizens to provide some form of administrative assistance and guidance to the representative bodies until such time as they proved that they can manage their own affairs.*'^{lxx}

The *Private Dealings Act 1974* was enacted whereby customary owners could apply to have their forests declared a Local Forest Area which enabled them to undertake private dealing with non-citizens outside the governments planning process. G.L. Carson was highly critical of the *Act* as he considered that government control on the rainforest, even in its current state, was preferable.^{lxxi}

PNG's forestry law post-independence 1975

Independence in 1975 saw the PNG government introduce a national forest policy which was published as a White Paper in 1979. The *Forestry Act 1971* and the *Forestry (Private Dealings) Act 1974* were adopted.^{lxxii} The large scale logging industry expanded so that by 1979 when the Revised National Forestry Policy was published, logging was central to forestry policy and an increase in the export of logs permitted. The Forest Development Corporation was established to assist landowners in sharing and gaining benefits from timber operations on their land.^{lxxiii}

Post-independence saw South East Asian companies gradually taking over Australian interests and in the process successfully persuaded local tribes to agree to the continued and increased logging of their rainforest lands. Just as had occurred in northern Queensland, protests against the destruction of the rainforest emerged from environmental groups and other non-government organisations. By 1987 various sectors through publications in the press and protests voiced in the PNG Parliament accused the Forest Industry Council of being involved in large timber deals on behalf of the government resulting in the destruction of the lowland tropical rainforests. As a result a Commission of Inquiry on the timber industry was implemented by Paias Wingti, the then Prime Minister of PNG. Its role was to look into all aspects of the forest industry. The Commission came to the conclusion that the timber industry in PNG was one run by pervasive corruption and reckless logging practices.^{lxxiv} Justice Thomas Barnett whose task was to investigate the industry took two years to write the

final report nearly lost his life in the process when he was stabbed outside his home in Port Moresby.^{lxxv}

The Barnett Report 1989

The terms of reference for the Commission were as follows: (a) Ascertain the process by which the Forest Industries Council (FIC) became involved in the marketing of timber (and the role played by the Department of Forests in this) (b) Determine the benefit attained for PNG from the FIC marketing operation (c) Ascertain whether anyone in the FIC received any direct or indirect benefits from the marketing operations (d) Report on existing government policy relating to forestry and in particular relating to resource allocation, conditions of operatives, marketing and prices of timber within the industry (e) Report on the function of the Department of Forests, the Minister of Forests and the FIC within government forestry policy (f) Report on the effect that the marketing policy of the FIC has had on government policy and on the functions exercised by the Minister and Department of Forests. (g) Ascertain whether and to what extent the function of the Minister and Department of Forests and FIC have been interfered with or encroached upon (h) Establish whether any person associated with the Minister or Department of Forests or the FIC or any other person has received or attempted or sought to receive any direct or indirect benefits in connection with the allocation of the right to participate in any way in the exploitation of timber resources (i) Ascertain whether any persons associated with the PNG timber industry have been mis-declaring the species, the quantities or the value of log exports or have been understating income or overstating costs.^{lxxvi}

The concluding comments from the Interim Report no 5 stated: *'There is a fog which is casting its cloud over forestry in this country. It is a mixture of meandering intellectual neglect, bureaucratic inefficiency and lack of honest political commitment to the visionary ideals of the Constitution. Underneath this fog of inertia there are some very active timber companies in partnership with some very greedy citizens whose aim is to cut down trees and transport them to log ships. In this activity they are being very successful.'*^{lxxvii}

The Final Report was damning. Its main points were that: (a) there was an imbalance of power between the Minister of Forests and the Department of Forests that gave the Minister total power over the allocation of concessions and licences. (b) There was an imbalance of power between the National Department of Forests and the Provincial Department of Forests which resulted in projects being approved against the wishes of local authorities (c) There was a

high level of corruption among parliamentary ministers, the Head of the Department of Forests, the Forest Industries Council and provincial governments (d) Added to this was the fact that companies undertaking logging operations got away with unauthorized logging in the rainforest.^{lxxviii}

With regard to the behaviour of the logging companies Judge Barnett had this to say: *'Not one company enterprise investigated by the Commission has a satisfactory record of performing the conditions of its operation. I know of no case where monetary damages have been imposed or a permit curtailed for failure to undertake conditions of the permit.'*^{lxxix}

Barnett uncovered massive corruption. One outstanding example is that of Michael Cowan who was appointed as the Executive Director of the Forest Industries Council and had misappropriated at least US\$28,892 to a David Toms in Singapore with whom he had a close criminal relationship and indulged in a flamboyant misuse of his expense account amongst other illegal activities.^{lxxx} Transfer pricing where profits are secretly transferred offshore was found to be rampant. Companies undertaking this arrangement declare a price for their timber exports below market value. Providing the company involved can conceal the actual payments received, the difference can be deposited in an off shore tax haven thus reducing export duties and the tax on royalties. Barnett found that the Japanese company Mitsubishi had made concealed profits of US\$1,500,000 by undervaluing purchases it made from United Timbers through an independent company set up as a result of loans from Mitsubishi, and in the process had illegally gained US\$300,000 in 1986.^{lxxxi}

An example of corruption following the declaration of a Land Forest Area occurred in the 110,000 ha Nakmei area. Nakmei Pty Ltd, a landowner company, was formed which entered into a joint venture with a company called Gaisho (NG) Pty Ltd, a wholly owned subsidiary of Gaisho Ltd of Osaka Japan. A new company called New Ireland industries Pty Ltd was formed to undertake logging in the area. The company failed to comply with logging conditions and overcut past the boundary. The result was that in 1983 the landowners petitioned the national Minister of Forests, Ted Diro, to withdraw the logging permit due to poor logging operations which resulted in waste, abandoned logs, oversized logs and reef damage. Following this, in 1984/5 Sakai Management Pty Ltd owned by a local business man, Bruce Tsang, illegally harvested 10,600 cubic metres of timber in the Nakmei Local Forest Area with the result that in 1986 the landowners petitioned the Minister of Forests Ted Diro to withdraw consent to

the project which he did. Barnett described the operation thus:

'it was clear that the landowner's resource had gone and they had received very little lasting benefit from its harvest. I observed overgrown and disintegrating secondary roads, a disused sawmill and disillusioned and bewildered people wandering over how their expectations of development had failed to be realised and squabbling over money 'leaking from trust accounts'.^{lxxxii}

The other area of corruption focused on mis-declaring species whereby highly valued species of trees are stated to be less valuable than they actually are and some companies were classifying species as mixed species in order to disguise profits. Barnett pointed out that the only way to avoid mis-declaration of species was through the inspection of export loading which was impossible because of labour and financial restraints on the Department of forests. When the Commission investigated unannounced they found no grading marks on logs and the smuggling of logs.^{lxxxiii}

The Commission in its final report stated that the purpose of PNG's the timber industry is to benefit the landowners and help increase their standard of living. Judge Barnett held that landowners are presumed to have a share in timber operations through royalties of around one quarter of the actual value of a standing tree rather than the quarter of the amount they currently received.^{lxxxiv} He stated they should also have ownership of permits and price sharing but in just about all instances landowner companies were puppets created to enable foreign timber companies to access timber resources. He concluded that in many cases the timber industry not only made life far harder for landowners but destroyed their environment and society.^{lxxxv}

This Report was embarrassing for the PNG government and cadres. It had revealed that PNG's timber industry was *'unpoliceable, inherently corrupt and beyond reform'*.^{lxxxvi} As could be expected government support for the Commission waned and it was wound down.^{lxxxvii} Significantly the Report is no longer available in PNG and nothing was done about corruption in the timber industry. One of those accused of massive corruption was Ted Diro who eventually became the Deputy Prime Minister and Sir Hugo Berghuser who was appointed to the board of the Forest Industries Council.^{lxxxviii}

PNG's current legal framework for the management of its rainforest

The Barnett Report achieved very little in addressing corrupt forestry practices. The enforcement of laws designed to protect the interests of tribal owners is

still poorly enforced and corruption continues. One positive aspect was that the *Forestry Act 1971* was repealed and the *Forestry Act 1991* passed. The 1973 *The Forest Industries Council Act* was repealed as the Council had been identified as engaging in unacceptable practices. The 1991 *Act* covers forest management, the forest industry, forest research, training and education and the organizational and administrative aspects of PNG's forest industry.^{lxxxix} A new body called the Forest Authority replaced the old Department of Forests. The main objective of new *Forestry Act* is to ensure that all relevant stakeholders participate in the harvesting and management of national forest resources through the National Forest Board, the Provincial Forest Management Committee and the National Forest Service.^{xc} At first glance the *Act* appears to be an impressive piece of legislation. Part 11 of the *Act* provides for the establishment of the PNG Forestry Authority the objectives of which are set out in section 6: (a) *management, development and protection of the Nation's forest resources and environment in such a way as to conserve and renew them as an asset for succeeding generations;* (b) *maximization of Papua New Guinea participation in the wise use and development of the forest resources as a renewable asset;* (c) *utilization of the nation's forest resources to achieve economic growth, employment creation and industrial and increased "down-stream" processing of the forest resources;* (d) *encouragement of scientific study and research into forest resources so as to contribute towards a sound ecological balance, consistent with the National development objectives;* (e) *increased acquisition and dissemination of skills, knowledge and information in forestry through education and training;* (f) *pursuit of effective strategies, including improved administrative and legal machinery, for managing forest resources and the management of national, provincial and local interests.*

The *Act* provides for the management, development and protection of PNG's forest resources and the environment. It is administered by the PNG Forestry Authority which is empowered to prepare national forest plans and negotiate forest management agreements and timber permits. However landowners are negatively affected by this *Act* as the Forestry Authority is empowered to act as an agent of the State by negotiating international agreements. The State therefore has the monopoly on entering into forest management agreements with landowners. The *Act* provides for the setting up of the National Forest Board answerable to the Minister.^{xcii} The Board is required to set up Provincial Forest Management Committees which are answerable to the Board. Division 5 of the *Act* provides for a National Forest

Service. The most controversial part of the *Act* is the State Marketing Agency under Division 6 which acts on behalf of the State to purchase options on logs and other products. This is a powerful agency that is able to promote the export of PNG forest products and act as a general log marketing agent at the discretion of the holder of a timber permit or timber authority. The Agency is also permitted to undertake market intelligence and explore market diversification along with any other function assigned to it by the Board.^{xcii} The *Act* gives the Forest Authority the power to draw up the National Forest Plan based on a certified National Forest Inventory prepared by the Board and Minister and endorsed by the National Executive Council which in turn must be endorsed by the Parliament.^{xciii} Provincial forest plans are also provided for in the *Act* under a five year rolling forest development programme and 40 year objectives and predictions which have to be submitted to the Board for approval.^{xciv} Forestry activities are permitted on government land, state leasehold land, private leasehold land, freehold private land and customary land. The *Act* incorporates the *Land Groups Incorporation Act 1974* recognizing land groups as set up under that *Act* and permits agents to act on their behalf.^{xcv} The *Act* provides for the assessment of forest development projects though none is required if the project does not exceed 5000m³.^{xcvi}

The *Act* also provides for the granting of timber permits provided they are approved under the *Environmental Planning Act 1978* and for the withdrawal of such permits by the Managing Director of the Board.^{xcvii}

Section 58 provides for management agreements between customary landowners and the Forestry Authority which must specify monetary and other benefits that will be received if rights are given away. As a result informal options occur with the result that the benefits from carbon sequestration agreements are shared with 80 per cent going to the customary owners, 10 per cent to companies and the remaining 10 per cent is allotted for monitoring and verification costs.^{xcviii}

The *Forest Regulation no 15 1992* was introduced so that forestry industry participants and consultants could be registered (amended in 1993, 1996, 2000 and 2005). In 1993 the *Forestry Amendment Act* was passed setting out the administrative functions of the Board, the National Forest Service and the various management committees.^{xcix} The National Forest Development guidelines were issued by the Minister for Forests in September 1993 which cover sustainable production, domestic processing, forest training, and the review of existing projects.

Table 1: majority of the land remains in customary ownership.

Ownership categories of forest area in 1000 ha	1990	2000	2005	2010
Public	946	904	883	833
Owned by individuals	0	0	0	0
Owned by business entities	0	0	0	0
Owned by local communities	0	0	0	0
Owned by indigenous/tribal communities	30577	29229	28544	28554
Other types of ownership	0	0	0	0
TOTAL	31325	30133	29437	29437

The PNG Forest Authority is the government agency responsible for overseeing the implementation of sustainable forest management in PNG. It is a fairly young department set up in 1993 under the *Forestry Act 1991*. It runs 19 provincial offices and employs about 386 permanent staff along with 300 casuals. Its objective is 'working towards achieving sustainable forest management in PNG'. The Forest Authority states on its website that all forest resources are customarily owned though timber rights can be obtained through the Forest Management Agreements.^c

The ITTO in 1993 observed that many of the indicators are qualitative and as such focus on the existence and implementation of guidelines and procedures rather than quantitative functions.^{ci} The set of criteria and indicators are essentially motherhood statements. For example Criteria 1 deals with the general institution requirements necessary to enable sustainable forest management and is therefore descriptive. Criteria 2 provides that managing the nation's forest estate is a long term enterprise requires national economic planning. Criteria 3 provides that the health of a forest can be affected by human actions and natural occurrences. Criteria 4 provide that sustainable forest management also for the production of wood and on wood products and that it can only be sustained by sound management practices. Criteria 5 provides that biological diversity must be maintained. Criteria 6 provides that protection of the soil and water in the forest is necessary. Criteria 7 provides that a well-managed forest is self-renewing and enhances the life of the population.^{cii}

The fundamental principle throughout the history of PNG's is the land and thereby the rainforest is under customary ownership. Looking to present ownership figures the Food and Agriculture Organization of the United Nations (FAO) has been unable to obtain ownership figures for the period 2005 – 2010. The year 2000 figures are the most up to date at this time. Assuming that little has changed Table 1 above shows that the majority of the land remains in customary ownership.

Public ownership refers to land that has been acquired by the PNG Government over the past 20 years. Lands owned by tribal clan groups are customary ownership rights. The FAO notes that there is a trend emerging in PNG where individuals are buying land from customary owners for their own use though it has been unable to obtain data on this trend.^{ciii} It is apparent that numerous tribes with accessible rainforest areas are being bribed by foreign interests in order to gain logging rights and often to

their detriment because more often than not, royalties never paid.

Turning to sustainable forest management, the *Logging Code of Practice 1997* provides guidance on what is considered to be an acceptable logging practice and what is considered an economically viable operation. The code provides for logging to be undertaken in all areas except the following: (a) Slopes steeper than 30 degrees (b) Areas of high relief on sloped steeper than an average of 25 degrees (c) Permanently inundated land (d) Limestone country (e) Mangrove areas^{civ}

It is apparent that this Code is relatively unrestrictive in practice. *The Forest Protection Policy* mandated in 1997 provides guidelines for the undertaking of major agricultural projects particularly where forest designed land are to be converted for other purposes. This is to ensure that only genuine agricultural developments occur on forested land. What is disturbing about the code is its estimated sustainable development figures which state that total sustainable forestry production is 3.13 million m³ per annum and 4.4 million ha is to be converted to agriculture over the next 50 years with the potential for a further 2.6 million m³ on top of that figure.^{cv}

The *Environment Act PNG 2000* regulates developments that impact on the natural environment with new operations requiring an Environmental Impact Statement which must be approved by the Department of Environment and Conservation in order for a project to proceed.

In 2003 a National Report was produced that assessed PNG's tropical forest zone. It stated there had been some progress in sustainable forest management of the natural tropical rainforests in PNG since 1995 but that due to manpower, financial problems, remoteness of forest concessions and inaccessibility by motor transport, promoting sustainable forest management was a difficult task.^{cvi}

Protected Areas

Some areas of PNG have been declared protected areas which is a positive move as increasing protected rainforest areas in order to preserve world rainforests is vital. For example in the 1960's when PNG was a territory of Australia, Variarata National Park facing the Coral Sea at the southern end of PNG covering 10.28 km² was declared a protected area.^{cvi} McAdam National Park was declared a protected area at the same time is located on the southern side of the island facing the Gulf of Papua covers 21.06 km². In 2005 the Minister for the Environment, William Duma, announced that the PNG government would

gazette 12 protected areas in the next 10 years located in the provinces of Madang in the Sepik River area, Mount Bosayi in the southern Highlands and the Transfly area of Western province which will add a further 71,451 ha.^{cxviii} In 2006, 80,000 ha of rainforest was declared a protected area at Mt Bonsayi in the Kikoria River Basin in the southern highlands as well as three new protected areas at Sulamesi of 70,159 ha, Hose 4,830 ha, Arisai 4,661 ha on the lands of the Kosua and Orogo people.^{cxix} In 2010 an announcement was made by the PNG government that it intends to increase protected areas by 50 per cent.^{cx} This decision is extremely important as PNG has only 1.66 per cent of its land area designated as protected areas, the lowest figure for any country which is 7.3 per cent less than the average.^{cxxi} All told 7,791 km² of PNG's land area is protected.^{cxii} The Protected Planet database reports that there are 52 protected areas comprised of 34 terrestrial parks and 18 marine parks. The terrestrial parks are divided into 15 national parks, 9 provisional parks, 1 recreation park, 1 Wildlife provisional Park, 1 nature reserve, 1 historical reserve, 1 hunting reserve, 1 recreational Reserve, 1 wildlife reserve 1 reserve.^{cxiii}

PNG's response to international aid programmes that address deforestation

The worry is that the PNG government regards its sovereignty over the rainforest as non-negotiable and has not welcomed projects that promote sustainable forestry. For example in 2006 a World Bank project worth over US\$34 million was provided to PNG for a Forestry and Conservation Project but then cancelled by the PNG government. It was approved by the World Bank because it considered that PNG would ultimately destroy its rainforest. The Bank stated that: *'The danger of deforestation and irretrievable loss of forest biodiversity in PNG was and still is imminent and severe'*^{cxiv}

The project was designed to assist the government with sustainable forest resource management by facilitating greater landowner participation in forest management and conservation and providing finance to implement forest management and protect forest biodiversity. It was also designed to assist in stream lining planning, monitoring the capacity of the PNG Forest Authority, monitoring the environmental impact of deforesting and the capabilities of the Office of Environment and Conservation.^{cxv}

In its Report on the aborted project the World Bank stated that: *'The Forestry and Conservation Project for Papua New Guinea was suspended only 15 months...; hence, the actual implementation was very limited and so was the outcome. The project had a difficult start, because shortly after loan negotiations, a new government took power. This note concludes*

that the evidence is inconclusive whether the Bank should have persuaded the government to restructure the Loan rather than cancel it. There were debates within the Bank to consider restructuring. However, evidence was accumulating that the new government's lack of capacity, governance, and common strategy with the Bank (despite some committed government staff within the sector) would have led to cancellation by the Bank in due course. In addition, the government clearly indicated to the Bank that it did not want further Bank involvement in Papua New Guinea's forest sector, and requested cancellation of the loan.'^{cxvi}

The implications gained from the failure of this project is that the PNG government supports Southeast Asian logging companies by giving them the right to deforest its rainforest rather facilitate sustainable forest management. As a result the World Bank along with other donors is hesitant in providing financial support to the PNG government for rainforest management.^{cxvii} Criticism at the World Bank was levied by PNG's FIA in a submission to AusAID criticizing it for approving finance for projects only if they are independently certified. The FIA argues that this indicates the World Bank has formed an alliance with the Forests Stewardship Council established by the WWF resulting in the World Bank being biased in its funding arrangements.^{cxviii}

There have been a number of reviews on timber harvesting in PNG between 2000 and 2005 which deserve mention at this juncture. The 2001 Review was conducted by an independent team that evaluated compliance with 32 proposed harvest projects that were being developed under the *Forest Act 1991*. It reported that apart from four projects proper procedures and laws were observed but the steps involved were not acceptable. They stated that four only should proceed after some alterations; six require substantial revision and twenty two should be abandoned.^{cxix} The 2002 review focused on the financial system and as was apparent in the Barnett Commission found that transfer pricing was being undertaken by some companies. The 2003 review looked at whether robber barons as described in the Barnett Report still roamed the countryside and it found that they were still active. The Report stated that corruption and the disregard for due process was a continuing problem with corruption present at all sectors of public life.^{cxx} Telling was the Transparency International Corruption Perceptions Index 2005 which showed PNG having a very poor level of national governance. At the time of writing Transparency International is working on a corruption risk mapping project designed to prevent illegal logging and improve forest governance and

protect the rights of land owners in PNG to be released some time in 2011.^{cxxi} Recently in May 2012 a new report has been compiled as a result of action by the new PNG government which displaced Sir Michael Somare's government in 2011. Sam Koik of Task Force Sweep reports '*generally our investigations have revealed a very frightening trend of corruption in this country...the level of corruption has migrated from sporadic to systematic and now to institutionalisation, where government institutions are dominated by corrupt people who orchestrate corrupt using lawful authorities*'.^{cxxii} He stated that PNG has been turned from a constitution democracy into a Mobocracy.

The 2004 a review of 14 logging operations saw no improvement in compliance with environmental standards in the logging industry. The main findings were as follows: (a) '*Logging has title long term beneficial impact on landowners although they bear the environmental costs* (b) '*The logging industry is not profitable and companies are not replacing their field equipment. This is not sustainable and it is estimated the currently logging capacity will cease to exist within 10-15 years.* (c) '*Many breaches of the logging standards go unreported and are not actioned. Field based officers have lost faith that their attempts to impose sanctions will be backed up by senior management who take their cue from political leaders* (d) '*The capacity of the Forest Authority has declined significantly with a notable lack of strategic thinking and planning and significant internal divisions* (e) '*The Department of Environment and Conservation is ineffective in the forestry sector and its ability to undertake effective monitoring and control has been fatally damaged*'.^{cxxiii}

International funding to protect PNG's rainforest

The provision of international funding should have had a positive result, however the FAO's Country Report on PNG 2010 shows a steady decline in PNG's rain forest coverage which is of major concern: (a) 1990 – 31,360,000 ha (b) 2000 – 30,050,000 ha (c) 2005 – 29,345,000 ha (d) 2010 – 28,640,000 ha

The most recently assessed period 2005 and 2010 shows a forest loss of 705,000 ha. i.e. 2.5 per cent. This is likely to continue with the majority of deforestation and degradation occurring in lowland rainforests.^{cxxiv} Sharman et al are more pessimistic and predict that by 2021, 53 per cent of PNG's rainforests would either be destroyed and/or degraded.^{cxxv} Therefore compliance with funding schemes has to be carefully monitored and managed.

PNG benefits from the Forest Carbon Partnership Facility agreed to between PNG and Australia in June 2008 whereby Australia committed to providing AU\$3 million in initial funding. The purpose is to provide PNG with scientific technical and analytical support to develop its own national carbon accounting system in preparation for REDD+^{cxxvi} which assists developing countries in reducing emissions from deforestation and forest degradation through the enhancement of global carbon stocks in tropical and subtropical forest countries.^{cxxvii}

The United Nations plans to provide funds to PNG through the REDD initiative 'not to deforest'. REDD came about when PNG's Prime Minister Sir Michael Somare established the Coalition for Rainforest Nations in 2007.^{cxxviii} The group proposed the provision of aid to developing rainforest countries to reconcile forest stewardship with economic development at COP11 in Montréal.^{cxxix} They argued that REDD would result in the mitigation of climate change through the preservation of carbon stocks and the conservation of biodiversity. The REDD+ programme which prepares tropical countries for the post 2010 REDD payments and the integration into private carbon markets was necessary for the country due to its poor forest governance record. The World Bank's role is to conduct due diligence on proposals received from developing countries and assist them with the preparatory work necessary to obtain REDD+. Its role is also to provide technical assistance for the implementation of REDD so that under this scheme PNG benefits indirectly from the World Bank's involvement.

PNG must ensure it can undertake its obligations under a REDD funded project. The Overseas Development Institute (ODI) identifies the following competences that have to be established in order for REDD+ to operate:

Firstly countries participating in the mechanism must report on their emissions performance which requires reforms that create the effective governance of rainforests through institutional frameworks. This includes establishing property rights and the establishment of institutions that provide for revenue sharing, establishing effective local governments and ensuring measures are in place to cover opportunity costs. Secondly output measures which include national level policy decisions, improved industrial practices along with initiatives to transform the livelihoods of the poor are required.^{cxxx}

However the ODI questions whether the scheme will have a measurable effect on the climate because developing countries are unable to undertake complex carbon accounting and management issues.^{cxxxi} Due to endemic corruption in PNG

effective governance is vital under the REDD+ programme as there is no guarantee that the programme will be properly implemented. One issue that needs to be taken into consideration when providing REDD funds to a developing country is that of additionally. Carbon credits can only be attained where net greenhouse gas emissions savings or sequestration benefits are over and above those that would have happened in the absence of an activity or project. Identifying additional savings avoids credits being given for carbon that would have been preserved in any event.^{cxxxii} If carbon credits are to be gained from preserving forests areas the methodology and type of test to be used is complex and therefore difficult to implement in developing countries.^{cxxxiii} In the case of primary forest protection it is almost impossible to gain data that evaluates what greenhouse gas emissions were prevented by not deforesting i.e. additionality. Though remote sensing technology is available along with field based forest inventories, it can often be inaccurate particularly when the subject forest is located in remote areas in developing countries. This poses major problem for REDD projects when assessments are being undertaken.

Bearing these points in mind, the PNG government is keen to facilitate the REDD programme having established the Office of Climate Change and Development. It has produced guidelines for REDD+ pilot projects which have been approved by the National Climate Change Committee and the National Executive Council.^{cxxxiv} It sees the objectives of REDD+ as respecting landowner rights and interests in REDD+ demonstration projects, preparing projects for future performance based on payments from international REDD+ sources, and ensuring that projects comply with institutionally accepted criteria.^{cxxxv} As part of the process, projects are assessed by a technical review panel that approves or rejects them. The REDD+ safeguard protocol is comprised of 37 criteria in 6 categories which must be complied with before approval for a REDD+ project can be given. The categories are outlined below:

General information

(a) Conditions in the project area (b) Management information (c) Community characteristic (d) Land ownership information (e) Legal status and rules compliance

Strategy alignment

(a) Baseline projections (b) Positive climate impact (c) Climate compatibility

Measurement recording and verification

(a) Climate monitoring (b) Environment monitoring

Social safeguard

(a) Consultation process (b) Benefit sharing (c) Poverty reduction and sustainable livelihood (d) Capacity development (e) Non discrimination

Environment safeguard

(a) Baseline projections (b) Biodiversity

Impact on local resources

(a) Fiduciary safeguard (b) Business Plan metrics (c) Funding sources (d) Annual audit

In 2009 the National Joint Programme for PNG was approved by the Policy Board of REDD+ in order to support the government's progression towards implementing REDD. The Board places heavy emphasis on the Measurement Reporting and Verification system (MRV) of the REDD+ programme. The PNG government envisages that by 2050 it will be low carbon economic developing country that will have increased its per capita GDP by a factor of three by 2030 so as to reach carbon neutrality by 2050.^{cxxxvi}

It should be noted that at this point in time the UN-REDD programme does not form part of a carbon market, a sponsor such as a corporation or the government of a developed country would need to be involved. In the case of companies there is no tangible benefit obtained by a sponsor, as the project is often referred to in a company report as a '*green benefit*' which is undertaken to impress shareholders.

Corruption in PNG'S government and forest industry

Corruption hangs over PNG's rainforest dealings like rotting fruit. For example in 2009 when the Australian and the PNG governments set up the Forest Carbon Partnership in order to co-operate on REDD, AU\$3 million was allocated to set up technical, scientific and analytical systems to monitor carbon sequestration. In May 2010 Sir Michael Somare announced that his country needed a further US\$71 million for readiness payments, US\$118 million for a pilot programme and US\$526 – US\$811 million for performance based payments, and in the same breath stated the country would do away with safeguards for REDD projects. This was an extraordinary request considering that all REDD projects undertaken in PNG to date are considered by the REDD monitor to be '*unmitigated disasters*'.^{cxxxvii}

The PNG government has received considerable foreign aid in order to move to sustainable forest management, yet little appears to have been achieved. The effectiveness of the UN-REDD programme

appears fraught with difficulties as evidenced from the PNG carbon storage figures obtained by Mongabay which state the following: (a) *'In 2002 - carbon storage in million tons of carbon in primary and secondary forests was estimated to be 4,724-4,735 (excluding soil carbon) (b) Between 1972 and 2002 deforestation resulted in the release of 926.5 Mt of carbon. (3,397 Mt of CO₂) with an additional 76.39 – 88.83 Mt of carbon being released through logging related forest degradation (c) In 2001 44.98-54.87 Mt of carbon were released through deforestation and degradation (d) In 2007 63.58-73.25 Mt of carbon were released through deforestation and degradation nearly one third of which resulted from logging activities. (e) Assuming a nominal rate of \$10 a ton the estimate value of carbon loss (US\$636 – US\$733 million in 2007 alone), is greater than the value official log exports in 2006 (US\$189 million in raw logs and other timber exports).'*^{cxxxviii}

July 2010, PNG sought approval for two REDD type projects under the Climate Community and Biodiversity Alliance Standard for a project at April Slaome located in East Sepik Province which comprises 521,000 ha of virgin forest and is home to 20,000 indigenous people owned by about 160 families. This project focused on 'Sustainable Forest Management'.^{cxxxix} The second project at Kamulo Doso located in Western province covers 800,000 ha of virgin forest. The latter project was to be for 'Improved Forest Management Carbon Projects'. The Kamula Doso project was set up by a company called Nupan Trading Corporation run by a non PNG national called Kirk Roberts who is well known for offering tribal communities large monetary returns from his carbon trade projects. His past history is colourful. In 2007 he was fined AU\$2800 for refusing to provide reports to the liquidator of the Australian Securities and Investment Commission (ASIC).^{cxli} Roberts travels around PNG persuading customary landowners to sign up for carbon trading deals to trade forest carbon as offsets even though they are not currently in existence. 14 per cent of REDD projects in 2008 were traded at a lower price than other forest carbon credits on the voluntary market as options because they are risky. Landowners therefore had been signing up to deals where there is no international agreement on how profits should be shared between them and traders such as Roberts who operate on the naivety of these poor landowners.

An alleged corrupt PNG government official Dr Yasause provided a Hong Kong based company Forest Top and Roberts with an official mandate to trade carbon when he was Chief of Staff to the Prime Minister's office signing them as interim director of the Office of Climate Change (OCC) one month

before he became director. He permitted Roberts to offer lucrative PNG carbon credits on world markets. Roberts and Yasause were given a memorandum of understanding from David Leamey a director of Forest Top to facilitate international carbon credits deals who then gave an Australian company Carbon Planet the rights to broker the credits and provide technical and scientific input to verify those credits. Forest Top would then distribute the carbon credit proceeds to Nupan and Carbon Planet. ASIC reveals that Carbon Planet gave AU\$1.2 million for projects in PNG associated with Nupan and Forest Top. However the dealings in PNG were illegal as PNG does not have a carbon policy or legislation for carbon trading.^{cxlii} In late 2008 Nupan received a letter from Yasause along with a certificate which stated carbon credits had been issued under the UNFCCC REDD initiative on Clean Development Mechanism's (CDM). This was followed by a letter in early 2009 from Yasause with the heading 'Notice of Nullification of all correspondences and certifications' issued on Kumalo Dos Pilot Project on REDD to the Managing Director of Nupan once it became publicly known that Yasause was dealing with Nusan. In June 2009, Yasause was interviewed by a journalist from the Economist and stated that his office had ceased dealing with Nupan PNG Ltd because the traditional landowners had not been involved in the agreements nor were the provincial and local governments.^{cxliii} Yasause was suspended from his position when it became clear he had been issuing REDD carbon credits certificates to Roberts illegally and that landowners had not consented to the projects. The OCC is not permitted to trade in carbon rights; it is only the Forest Authority that can trade in timber and therefore forest carbon.^{cxliiii}

In 2009 SBS television in Australia had a series of programmes that focused on carbon trading in PNG which reported that Abilie Wape the head of a landowner group in Kamula Doso and a director of Tumu Timbers Ltd, the land owner company involved in the project, stated he was threatened at gunpoint to sign away the carbon rights to his tribes' part of the rainforest. This was followed by report in the Post Courier where Wape is alleged to have said that he was not taken at gun point but was bribed by SBS television to state the untruths. He issued a denial after the UNFCCC further investigated the allegations and subsequently changed his statement stating that he was worried about unrest in his village caused by loggers and had to have police escort to his car.^{cxliv}

The legal battle between the PNG Forest Authority and the NGO Eco Forestry Forum over the forest situation in Kamula Dosos continued. In 2010 The National Court of Justice at Waigani PNG ordered

that 'the *Kamula Doso Forestry Management Agreement made by the National Forest Board in 1997 was not valid because it was not approved by the Minister Makula Doso under the Forestry Management Agreement 1999.*' The judgment restrained the National Forest Board from issuing, granting or causing to be issued or granted by any relevant authority, any timber rights in relation to the Makula Doso Forest Management Area.^{cxlv}

The April Salumei project run by the Rainforest Management Alliance and headed by Stephen Hooper claims on its website that further carbon projects will be approved by the Community Climate and Biodiversity Gold Standard. However Matt Leggett of the World Wildlife Funds Melanesian Programme Office states that there are three major concerns about the project: firstly the level of community consultation and understanding for the project meaning that they do not have informed consent to undertake it, secondly it does not adequately address accounting for existing disputes over land tenure and thirdly it is not supported by the PNG Government. Local landowners stated they were being forced into supporting the project and had no idea what was involved.^{cxlvi} On 14 July 2010 the Executive Director of the OCCD Wari Iamo released a press statement which stated that the OCCD does not allow any partnership support of any connection with the April Salumei forest project.^{cxlvii} This press release occurred after the Rainforest Project Management had stated that the OCCD was a project partner in the April Salumei project. This was followed by a letter sent to Stephen Hooper by the PNG Governments Acting Chief Secretary, Manasupe Zurenuothe, on the Rainforest Management Alliance RMA website which confirmed the project.^{cxlviii}

The project became the subject of an Ombudsman's Report which had investigated the decision to award Kamula Dosa logging concessions in Western Province to a logging company by the name of Rimbunan Hijau. The Ombudsman's report states that the decision to award this group logging rights by the National Forest Board was wrong and had to be revoked as it was in breach of the Forestry Act.^{cxlix}

The corruption levels present in PNG were highlighted in October 2010 when Greenpeace presented the PNG government with a 'Golden Chainsaw' award for asking for international monetary assistance while undertaking rampant logging and failing to respect the rights of its indigenous people. The award was given to Federica Bietta who is a representative the PNG government and was co-chair of the REDD+ Partnership which met at the UN Convention on Biodiversity in Nagoya

Japan and yet she has never visited PNG.^{cl} Sam Moko of Greenpeace describes the situation as follows:

'A major challenge is for PNG to transform its policies laws and institutions, if it is to ready itself for increased international assistance via REDD. It still needs to bring down the high levels of corruption and improve governance if donors are to be reassured that REDD financing can achieve the goals of emission reductions for conservation and climate compatible development'^{cli}

Nevertheless money is still being poured into PNG. For example at the Fifth Policy Board meeting of the UN-REDD programme held in Washington DC in November 2010 approval was given for US\$6.4 million to PNG to fund the REDD+ readiness programme.^{clii}

It is clear from the examples of corruption given in this article that world donors need to be wary about investing in countries such as PNG where corruption at all levels of the government and private sector is manifested. The situation could arise whereby PNG receives compensation for reductions in deforestation below a historical baseline as a result of under estimating its annual forest loss. Greenpeace is highly critical of these illegitimate gains by PNG and argues that instead of trying to address deforestation, in reality the government aims to maximize REDD funding but is failing to improve the institutional and political capacity of managing its rainforest.^{cliii}

CONCLUSION

Whether the PNG government appreciates the problems it and the rest of the world faces by its treatment of the rainforest is a moot point even though PNG's Forestry Authority's website gives recognition to its responsibilities as a signatory to the Kyoto Protocol.^{cliv} It states that carbon sequestration under the CDM that permits projects promoting reforestation is crucial. Though a reforestation policy has been drafted by the Forest Authority that meets the requirements of CDM project, at this point in time it has not been implemented.^{clv}

It is extremely difficult if not impossible to provide a solution to endemic internal corruption in a country where all levels of government are involved along with private logging companies. The imposition of laws and regulations requires effective governance at all levels. The fundamental question is can government officials who are given the role of dealing with corruption actually carry out their mandate? Even training, which is essential for the proper management of a rainforest, often results in the trainee being compromised by the trainer. One solution would be the establishment of cooperative

framework inclusive of the private sector, overseen by aid agencies.

The Overseas Development Institute (ODI) is acutely aware of these problems and recognizes that REDD preparedness is not about actual preparedness activities but rather about the political and economic

'Ensuring that market based approaches to REDD where they are used are designed in such a way as to safeguard the interests of the poor.' This outcome can only be achieved by strengthening institutions that promote such rights.

'Identifying alternative sources of financing that can be directed at scale to support countries that are unable to access carbon markets as well as actors in those countries.' The ODI suggests raising revenues from auctioning emission allowances to companies in the EU trading scheme.

'Rebuilding better linkages between private and public finance.' The ODI recognizes that none of these sources can possibly finance REDD on its own^{clvi}

realities of forest use. It states the ability to address these issues depends on:

'Identifying effective measures to reduce forest carbon emissions. These would include reducing forest dependence through positive employment and development policies that than exclusion and punitive measures'

The issues raised above highlight the challenges faced in controlling deforestation rates and fostering sustainable forestry in a developing country. However PNG is not alone as tropical rainforests in other developing countries are undergoing similar deforestation rates due to poorly enforced laws and systemic corruption.^{clvii} Though it is essential that developing countries sustainably manage their rainforests and at the same time move into other viable industries, international funding has to be made available to facilitate this. The overriding question is whether international funding will end up being used for rainforest projects or get frittered away by corrupt cadres and government officials.

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