Assigning rights to carbon:
Feasible in the forests of Indonesia?

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Declaration

I declare that this thesis is my own account of my own research. It contains as its main content work which has not been previously submitted for a degree at any university, except where acknowledgement is made in the text.

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Abstract

Tropical deforestation contributes significantly to climate change. The concept of reducing emissions from deforestation and forest degradation (REDD) in developing countries has now been accepted in the international climate regime as a strategy for mitigating the dangerous effects of climate change. Under an international ‘REDD+’ framework, it is proposed that developed countries will compensate developing countries for the carbon offsets generated by avoided deforestation and other forest conservation activities. Clarifying who owns the rights to the forest carbon is a complicated issue that must be resolved in heavily forested developing countries. Carbon rights have developed as a novel form of property from the western legal tradition that has become increasingly centred on individual ownership and transferability of assets and resources. While some developed countries have attempted to define carbon property rights, in most developing countries this remains a difficult notion to conceive in their property systems.

This situation is typified in Indonesia. As one of the world’s largest sources of emissions from land use change, Indonesia has a long history of poor management and regulation of forest resources. The allocation of property rights in and around forests has been contentious for many years and contributed significantly to the vast deforestation of the Indonesian archipelago.

It is questionable whether Indonesian law is capable of supporting a carbon rights regime. A plural system combining several different legal sources, the operation of law in Indonesia has been dogged by contradictions and inconsistent and arbitrary application. The importation and transplantation of legal concepts into the Indonesian context has been particularly unsuccessful. In light of this ‘shaky ground’, successfully assigning rights to forest carbon in Indonesia appears a major challenge.
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<td>Basic Agrarian Law</td>
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<td>CDM</td>
<td>Clean Development Mechanism</td>
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<td>CER</td>
<td>Certified Emission Reduction</td>
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<td>GHG</td>
<td>Greenhouse gas</td>
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Chapter One: Introduction

Why destroy the forests? There are fewer and fewer forests, the rivers are drying up, the wild creatures becoming extinct, the climate is ruined, and every day the Earth is growing poorer…

- Astrov in Uncle Vanya (Chekhov 1900).

To the Indonesian people forests are very dear. Not only because they provide food and income … but also because they form the foundation of the diverse cultures and beliefs that form the country’s wealth.


Forest ecosystems have long been devastated by human development. The tendency to clear immense tracts of land goes back beyond the beginning of the industrial revolution, which is a common point to which many environmental problems are traced back. The once vastly forested Mediterranean basin is now a stark reminder of an ancient event of deforestation and a warning on how irrevocably we can change a landscape (Snyder 1990).

Has the tide turned in regards to our perceptions of the value of forests?

2011 is an important year for forests. Officially designated by the United Nations (UN) as the ‘International Year of Forests’, there is a possibility that it could also become notable for being the year in which forests are recognised for their substantial carbon storage capacity and included in a binding international climate change agreement that sets the roadmap for reducing global emissions.

Creating an incentive for storing carbon in developing country forests represents a great hope in the field of climate change. Realising the ambition to begin offsetting emissions in other sectors and start slowing down the dangerous effects of climate change will be, however, a significant challenge.
An internationally linked market mechanism based on forest carbon developing countries requires robust legal frameworks and supporting governance. As benefits will flow from a product associated with the land it is also imperative that property interests be clarified. The strategy of reducing emissions from deforestation and forest degradation (REDD) faces major hurdles associated with the circumstances of weak forest tenure and often ineffective forest management and regulation that dominate many of the heavily forested developing nations.

This thesis looks closely at the notion of property rights to forest carbon, and more critically, whether it is a viable proposal considering the uncertain legal environments REDD will operate in, with Indonesia the main case in point.

Chapter 2 introduces the notion of REDD (and subsequently, REDD+) and describes its development within the international climate change regime. The serious challenges posed in implementing an effective scheme for avoided deforestation are highlighted.

Chapter 3 looks at the novel legal construct of carbon property rights. Tracing over time the emergence of individual property rights in the western legal tradition, it arrives at a point where trading of intangible property rights is now proposed on a global scale. The different approaches to establishing carbon property rights taken by several developed and developing countries are examined.

Chapter 4 scrutinises forest and land management and regulation in Indonesia to ascertain the capacity to support a system of carbon property rights. The source of the unstable nature of the Indonesian context is found in a history of resource exploitation, plural law and its inconsistent and often arbitrary application.

Chapter 5 raises queries about some fundamental paradigms underpinning REDD and its close association with exploitative systems of property. It then turns to Indonesia to look at how implied rights to carbon are beginning to emerge in anticipation of an international
REDD+ scheme, and questions whether the Indonesian legal system can support the introduction of such abstract rights.

Finally, a caveat on the nature of this thesis. Unfortunately, in terms of the substance of the subject material considered and discussed, it remains a work of desktop research only. I missed the chance to look firsthand at a developing REDD project or meet people involved with one, which is a regret in hindsight, and diminishes the authority of this thesis to lay claims about the "real circumstances" of Indonesian law and society.

What I did gain during some brief travels in West Sumatra and the Mentawai Islands last year is a firm conviction that life in Indonesia plays out to a different tune, and certainly not always in accordance with prescribed norms derived from the state. Albeit only briefly, I did have a glimpse of the acute sociality that shapes personal and commercial interactions and resists characterisation as normative legal behaviour.
Chapter Two: Reducing Emissions from Deforestation and Forest Degradation

2.1 Earth’s changing climate

The defining challenge of our age.

– Ban Ki-moon, United Nations (UN) Secretary-General, 2007

The Earth’s climate is changing. An atmospheric balance of elements limits the amount of thermal energy reflected from the Earth’s surface and helps maintain a comfortable temperature with a habitat conducive for life forms to thrive. This concoction of gases has been amplified in recent times by an increased amount of greenhouse gases (GHGs) in the atmosphere, upsetting the poise of this balance to an extent not experienced for 55 million years (Flannery 2008). The consumption of energy derived from sources of carbon-rich fuels fossilised over millions of years spent embedded in the Earth’s crust has driven the pace of human industrial development since the 18th century and created landscape change of a vast scale. The enhanced greenhouse effect caused by increased emissions is now understood to be raising global temperatures, and subsequently, altering the Earth’s climate system (Intergovernmental Panel on Climate Change (IPCC) 2007).\(^2\)

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\(^1\) The term ‘greenhouse gases’ refers to a number of gases, including carbon dioxide, methane, nitrous oxide and others, which contribute to climate change. Collectively, greenhouse gas emissions are often referred to as carbon dioxide equivalent (CO2-e). This thesis will often refer to greenhouse gases more simply as ‘emissions’. Similarly, the singular term ‘carbon’ has become synonymous for carbon dioxide in international policy and everyday parlance and will be used here.

\(^2\) The UN’s IPCC, has stated unequivocally in its most recent and authoritative Assessment Report, released in 2007, that the Earth’s temperature is rising, and is 90% certain that this warming is caused by human-induced emissions. Working by consensus and representing government figures from Saudi Arabia to the US, there is a strong suggestion that the IPCC produces conservative conclusions and
The change has already begun, and the inherent delay in the warming effect combined with the length of time that a GHG remains in the atmosphere ensures that some temperature change is inevitable. Observations have identified shifts in natural systems – animal behaviour, bird migration, water flows and plant activity (Rosenzweig, et al. 2008, in Flannery 2008: 10) – as well as impacts that acutely affect human life, such as increased droughts and heat waves, increased precipitation, and more extreme high sea level events. These negative impacts will increase in frequency and severity as temperatures rise, and developing countries’ geographical circumstance and dependence on agriculture dictate that they will be most vulnerable to the effects of a problem to which they contributed the least (Eliasch 2008: 2-4).

Obtaining recognition in the canon of mainstream science most significantly through the work of perhaps the world’s largest multidisciplinary scientific study ever conducted (IPCC 2007), climate change has become, more or less, widely accepted across the globe. As a consideration and a concern it has transcended the environmental sphere in which it gestated and is now deeply embedded in social and political consciousness. Unequivocally, climate change poses a real danger to future generations of humanity and a serious threat to the health of life on the planet as we know it. Understanding climate change and working to mitigate and adapt to its effects stands as this generation’s ‘defining challenge’.

2.2 Terrestrial carbon, forests and climate change

To grasp the process of climate change quite simply, the description can be reduced to the following: it is one of drastic human interference in the relationship between the Earth’s “three great organs – crust, air and water” in relatively recent planetary times (Flannery 2008: 15). The forecasts, and that the climate change phenomenon and likely future scenarios are even more severe than the IPCC suggests, as are the measures that we need to take to diminish their impact (see Flannery 2008).
carbon cycle involves an interchange of material to and from the atmosphere, the oceans, and terrestrial Earth (see Figure 1). With a 30% increase in atmospheric carbon concentration since 1750, the impacts of human activity have now entered the dynamic (IPCC 2007).

Figure 1. An approximation of the carbon flows between different systems in gigatonne (Gt) units. *Deforestation contributes ~2 Gt/year (Keith, Mackey and Lindenmayer 2009).

Within this cycle a significant amount of carbon is stored in the terrestrial sphere. Forest ecosystems account for around 60% of terrestrial carbon, which is greater than the amount of carbon found in the atmosphere (Streck, O'Sullivan, et al. 2008). Most recently estimated at over 650 billion tonnes, this is spread between forest biomass (44%), dead wood and litter (11%), and the soil (45%) (FAO 2010). Effectively, it acts as a partial sink for anthropogenic emissions.

The amount of terrestrial carbon released into the atmosphere as a result of natural and human activities is also substantial. An estimate suggests that land use and land use change over the past 200 years accounts for as much as 40% of cumulative emissions, mostly from deforestation (O'Sullivan 2008: 179), while the IPCC (2007; see Figure 2) attributes approximately 17% of current global emissions to the forestry sector. To put this in perspective, this level of emissions is surpassed only by the energy and industry sectors, and exceeds, for example, emissions arising from all forms of transport.
Figure 2. Global emission trends: a) Global GHG emissions from 1970 to 2004, demonstrating a 70% increase; b) Share of different anthropogenic GHGs in total emissions in 2004, including 17.3% of CO2-e from carbon dioxide released from deforestation etc.; c) Share of different sectors in total anthropogenic GHG emissions in 2004, with forestry including deforestation (IPCC 2007).

Tropical forests exemplify the converse nature of terrestrial carbon as a major sink and an emitter; a cause of, and solution for climate change. The conditions of moisture and warmth in the tropics are conducive to fast and regular plant growth, and in turn, their forests provide efficient sequestration of 200 billion tonnes of carbon (Flannery 2008: 42; IPCC 2007). The extensive clearing and degradation of tropical forests, however, has now become the main cause of emissions from land use. Further, as anticipated rising temperatures occur, regional and global feedbacks will exacerbate the conditions that compromise the equilibrium of tropical forest ecosystems and make them more vulnerable to continued deforestation (Schwartzman and Moutinho 2008: 227).

Overwhelmingly, deforestation occurs in developing countries, with 70% of emissions produced by just eight countries. Here the subsequent decline in ecosystem health is felt even more sensitively by communities who are comparatively poorer and more resource dependent than populations of industrial countries (Eliasch 2008: 7). Yet this combination of highly forested landscapes and poorer economies has inspired the notion that reducing emissions from deforestation could be a cheaper and more immediate way to curb
global emissions (Trines 2008). While it took some time for this idea to take root in the international climate regime, it has gained considerable traction in the past several years and is now essentially an accepted component of future global climate change policy under the guise of reducing emissions from deforestation and degradation (REDD).

The concept does not have universal support, however, and often polarises opinion. Strong arguments can be found both for and against REDD, while those who are neither overly large GHG polluters nor home to vast forest may be moderately indifferent. What is undeniable is that the issue of tropical deforestation is significant and a major contributor to climate change; its impacts are of grave concern; and attempting to address it through the approach of REDD is going to be an immense and extremely complex challenge.

2.3 Climate change and Indonesia

Indonesia holds a position of great relevance in relation to global climate change. As a nation it possesses across its 17,400 islands the third highest coverage of rainforest in the world, after Brazil and the Democratic Republic of Congo only (see Figure 3 for the global spread of forest coverage). Stored amongst Indonesia’s 94 million hectares of standing forest is approximately 19 billion tonnes of carbon. With a long and ongoing history of deforestation, by 2005 Indonesia had become one of the five largest GHG emitting nations in the world, and the world’s largest emitter of carbon from land uses. It is believed the land use, land use change, and forestry (LULUCF) sector has at times accounted for up to 85% of Indonesia’s entire output of emissions (Pelangi Energi Abadi Citra Enviro (PEACE) 2007; Food and Agriculture Organization (FAO) 2010).
Figure 3. Global forest coverage, with rainforest concentrated in the tropical zone, in particular Brazil, the Democratic Republic of Congo, and Indonesia (FAO 2010).

Large scale deforestation has occurred in Indonesia in some form or another since a colonial forestry system emerged under the Dutch in the early nineteenth century. The guise of the governance regimes may have changed, and the extent and location of forest clearing shifted, but the pattern has remained similar (McCarthy 2000: 102-104). Between 1950 and 2000 forest area declined by 40% (Arnold 2008: 77); this reached somewhat of a peak in the 1990s where on average nearly 2 million hectares of forest were lost per year over the decade, and has dropped to 498 000 hectares per year, or 0.51% per annum between 2000-2010 (FAO 2010).

Impacts of climate change will be strongly felt in Indonesia. Increased rainfall will enhance the risk of flooding, rates of infectious water- and vector-borne diseases will grow, while warmer temperatures will further exacerbate the conditions that trigger forest fires. Weather events and sea level rise will compromise food security, with farming and fishing particularly at threat (PEACE 2007). A rise in sea level will also recede Indonesia’s maritime zones, particularly in the low-lying coasts of northern Sumatra and Java and southern Kalimanatan, reducing the country’s rights to economic resources (Wei, et al. 2011).
Indonesia is a growing developing economy, with a government that intends to continue along the path of economic growth that saw a 6.2% increase in GDP and nearly four million new jobs in 2010 (Samboh 2011). It has also announced its ambition for a low carbon future, with President Susilo Bambang Yudhoyono setting a target to reduce emissions by 26% against current business-as-usual projections by 2020, an aim that could extend to 41% if additional assistance is provided by developed nations (Schwarz 2010). With most of the country’s emissions coming from deforestation and the drying of peat swamps, terrestrial carbon will be the obvious target for reductions. Yet while the cost of deforestation to the government is said to be significant, as much as USD$8 billion from 2005 to 2009 (Jakarta Post 2011b), the pressures of increasing development from the major sources of Indonesia’s economic growth (and, it should be added, land use change) such as coal mining and palm oil plantations (Brown 2011: 4) ensure that as with most places in the world, the ambition of ‘low carbon growth’ is inherently loaded with tension.
2.4 A collective response to climate change

The global scale of climate change means that an effective attempt to address the problem must be based in a widespread collective response. To date, international action has largely come through the United Nations Framework Convention on Climate Change (UNFCCC). With near universal membership of 194 parties, the most of any international environmental agreement (Barrett and Stavins 2003: 3), the object and purpose of the Convention is to stabilise atmospheric GHG levels in order to avoid dangerous anthropogenic climate change. While this high level of participation represents widespread symbolic commitment to the cause, it has not translated into achievement of success. Material reductions in carbon emissions have for the past forty years only occurred during short periods of economic recession. Decreased emissions due to the slowing of industrial activity in developed countries in 2009 as a result of the recent global financial crisis were offset by the growing emissions from the booming economies of India and China (Olivier and Peters 2010).

The ‘arithmetic’ of climate change mitigation involves a few straightforward steps. Scientific consensus informs the need to drastically reduce GHG emissions to allow atmospheric concentration of CO2-e to stabilise between 300 and 450 parts per million and avoid the most dangerous impacts of climate change. The additional questions of who makes the reductions and by how much, and who has to pay for the transition to a carbon constrained economy are the details that have dogged international negotiations and prevented progress towards collective, material reductions in emission levels (Ashton 2010).

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5 UNFCCC, Article 2.
Where the UNFCCC merely encourages commitments to reducing emissions, the Kyoto Protocol, a treaty to the Convention, sets out to bind developed countries to emission reduction targets, and provides strategies for achieving them. Possessing a weak compliance mechanism\(^6\), the Kyoto Protocol is not a particularly strong instrument of international law, and contains fairly modest reduction targets that are not currently sufficient to mitigate against the effects of climate change. It is, however, the embodiment of the collective will of the countries of the world. Or, rather, their governing officials.

Though the text of the UNFCCC considers mitigation of climate change to necessarily include both a reduction of emissions released into the atmosphere, as well as an increase in the storage of GHGs in the biosphere, in practice the Kyoto Protocol does not facilitate an effective combination of both (Terrestrial Carbon Group 2008). Emissions from the burning of fossil fuels are relatively simple to monitor and ascribe to a particular activity, and reductions can be verified with reliable precision. They are therefore the primary focus of the incentive mechanisms established under the Kyoto Protocol to help enable developed countries reduce emissions. What is not included amongst these mechanisms, however, is a method to encourage the lowering of the substantial emissions that arise from land use change in developing countries – a large amount of which come from tropical deforestation (O’Sullivan 2008). Given these contribute significantly to climate change, the failure to address this issue potentially undermines all of the efforts made elsewhere to reduce the levels of atmospheric GHGs.

**2.5 A potential answer: REDD+**

As the overwhelming weight of cumulative historical emissions stem from the activity of industrialised economies, the Kyoto Protocol

imposes binding emission reduction commitments upon developed countries only. This is in line with the principle of ‘common but differentiated responsibility’. Developing countries are encouraged to reduce emissions but their right to advance their economies in line with industrialised countries is recognised.

The LULUCF sector, which includes the substantial body of emissions from tropical deforestation in developing countries, was highlighted prior to the negotiations that produced the Kyoto Protocol in 1997. Much confusion surrounded the sector and there was opposition to its potential as area for mitigation, a result of the complexity of the subject, uncertainty regarding the science, and the late stage it was introduced to the process. Several years later and with a better understanding of the sector’s contribution to climate change, it was formally accepted by the Conference of Parties (COP) to the UNFCCC in 2005 in Montreal. Yet of the three flexibility mechanisms available for developed countries to assist in meeting their emission reduction commitments, the one that encouraged mitigation activity in conjunction with developing countries, the Clean Development Mechanism (CDM), involved prohibitive rules that meant emissions from tropical deforestation were essentially ignored (Trines 2008).

Gradually, awareness of the size and significance of emissions from deforestation has become widespread. Highlighted in Stern’s (2006) influential and persuasive economic analysis of climate change, the idea that financial and policy incentives could be used to reduce emissions from deforestation and forest degradation (REDD) was presented as a relatively cost-effective strategy that effectively engages this vast source of developing country emissions and provides a bridge to the technological transition required to reform the energy and transport sectors (Eliasch 2008; Schwartzman and

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7 The other flexibility mechanisms are Joint Implementation – activities carried out between industrialised countries and countries with transitioning economies – and Emissions Trading.
Moutinho 2008: 228). With our ability to constrain the global temperature to a 2°C rise contingent on action within the next 15 years, the immediate potential of REDD is undoubtedly attractive when “the inertia of global power consumption and costs of changing the energy matrix” is considered (Streck, Pedroni, et al. 2008; Schwartzman and Moutinho 2008: 227). The strategy has been prominently advocated by representatives from virtually every sphere: developed and developing country governments, research and scientific institutions, conservation non-governmental organisations (NGOs), and private corporate entities (Griffiths 2007); even British royalty has joined the dialogue (The Prince’s Rainforest Project 2011). REDD is seen as rare instance when the when developed and developing countries come to an agreement on an issue that mutually beneficial within the UNFCCC sphere (Clarke 2010: 45), and has the ability to integrate countries who are only weakly committed to mitigate climate change under the Kyoto Protocol, but are growing emitters of GHGs moving into the future (Venning 2010: 84).

Prospect of a decision on REDD within the UNFCCC framework began in 2005 when Papua New Guinea and Costa Rica made a submission at COP-11 in favour of identifying a means to reduce emissions from deforestation. As concern about forest emissions grew in the public realm, REDD remained in focus within UNFCCC talks. This was most notable at COP-13 in Bali, 2007, where the concept was expanded in the Bali Action Plan to ‘REDD-plus’ (REDD+). REDD+ also encourages “conservation, sustainable management of forests and enhancement of forest carbon stocks” as well as the core focus of reducing emissions from deforestation and forest degradation (Fry 2008: 167). At COP-16 in Cancun, 2010, where an agreement to encourage REDD+ in developing countries formed a major part of the Cancun Agreements. There is a widespread expectation that REDD+ will form a component of the next binding international emissions reduction agreement, whether that be as part of a second commitment period in an extension to the Kyoto Protocol (which expires in 2012), or as part of a separate new agreement under the UNFCCC. Given that
within the Cancun Agreements the choice was made to delay a
decision on this issue until the next COP-17 in Durban, December
}

Though the details of a REDD+ scheme are yet to be decided,
developing countries have been fairly enthusiastic in committing to the
concept; by 2009, 37 nations had begun participating in the World
Bank’s Forest Carbon Partnership Facility (FCPF), which assists
countries prepare for a future international REDD+ scheme (FCPF
2011).

2.6 The main challenges for REDD+

Design, operation, cost

REDD+ has at times been framed as a panacea of sorts. A typical
statement by advocates is to suggest that deforestation is “a
multicausal disease for which a proven cure does not yet exist”, and
that to allow governments continue their modest and failing attempts to
address the problem would be irresponsible. An internationally
designed incentive system would begin to halt deforestation
immediately, while reducing dangerous carbon emissions (Streck,
associated with conserving forests include retention of the
environmental services, economic resources, and the intrinsic
aesthetic and spiritual value that forest dependent communities enjoy
and rely upon throughout the tropical regions - not least upon millions
of Indonesians. There is even a sense of synergy with the UN
Millennium Declaration and the Rio Conventions on Biodiversity and
Combating Desertification respectively (Fehse 2008).

Though this optimistic view is valid, and the essence of hope is
fundamental to the prospect human mitigation of climate change, it is a
perspective that has been simplistically reduced. The very real and
difficult challenges of REDD+ cannot be overlooked.

Controversy surrounding the viability of REDD+ on grounds of
methodological and technological concerns were a major reason the
concept was taken to slowly within the UNFCCC process. These
challenges persist to an extent, but countries are now satisfied that
they can be managed. The challenges include, for example, the
danger that forestry carbon credits do not hold enough permanence
(owing to the susceptibility of forests to clearing or decomposition from
human or natural causes) (Fry 2008:172). To allay this concern,
REDD+ projects must incorporate forest protection measures and
monitoring systems (Ebeling 2008: 49). Another question is of leakage;
where mitigation efforts in one location directly or indirectly lead to
emissions in another (for example, if one forest is given protection
status, a forest 50km away may be targeted for logging instead) (Fry
2008: 173). The solution proposed to this problem is for a REDD+
framework to set limiting national deforestation baselines for
participating countries so that, nationwide at least, a net reduction in
emissions is guaranteed (Ebeling 2008: 51). Many of the technical
challenges of an avoided deforestation scheme are diminishing as
technology advances. Even large developing countries like Indonesia
now have access to instruments such as high-resolution radar
satellites that can accurately monitor levels of deforestation (Jakarta
Post 2011a), while experience gained from the CDM’s afforestation
component will also assist.

A further barrier is the cost of establishing a REDD+ scheme. While
avoided deforestation is often portrayed as a cheap avenue for
reducing emissions, the reality is that a system of trading in forest
carbon credits has high associated costs. Transaction costs are high.
Individual schemes require considerable administrative and legal work,
not to mention at the international level in the UNFCCC. Once
established, trading systems such as REDD+ are liable to the vagaries
of the market, and incur ongoing monitoring and enforcement costs
(Chomitz 2004: 355).
Countries that already have established good forestry governance and institutional support, along with clear tenure, will find the costs of REDD much easier to absorb than countries which do not, which are numerous. Additional financial support will be required to help these countries in meeting readiness costs (RECOFTC 2010).

Compounding the cost issue is the fact that many developing countries, including Indonesia, are developing their REDD+ strategies under the guidance of a greenhouse gas abatement cost curve, produced by a major international consultancy, that has been heavily criticised for underestimating the price of reducing deforestation, and contains many assumptions that appear flawed (Greenpeace 2011).

**Governance, tenure and ownership rights**

Beyond economics, one of, if not the most critical challenges to REDD+ is actually getting the scheme to work in developing countries that in many ways function poorly. REDD+ will be operate within a "geographically-diverse, fragmented, horizontally-administered, speculation as well as compliance-driven" international carbon market (Button 2008) - and forest carbon is considered one of the more complicated elements of this boggling affair. That the concept will essentially be driven by and from developing countries is highly ambitious.

Governance and tenure are major issues for REDD+ and may prove the biggest stumbling block. The poor governance indicators of the world’s largest land use emitters clearly highlights the nature of the challenge (Table 1).
Table 1. World Bank indicators for governance for the eight nations that produce 70% of total GHG emissions from land use (Stern 2006) - using a percentile rank relative to other countries of the world, smaller figures indicate poorer governance ratings (Source: Streck, Pedroni, et al. 2008: 241).

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Contested or uncertain tenure plagues forest countries. It is intrinsically linked to deforestation. While a recent trend to grant tenure rights to forest communities has brought as much as 27% of the forests in developing countries under local control, for the most part ownership or control remains vested in the state by law. In Indonesia very little progress has been made on tenure issues and community rights to forests (Cotula and Mayers 2009).

Security of ownership is integral to a market trading scheme for avoided deforestation. “Without secure rights, forest users have few incentives – and often lack legal status – to invest in protecting forests” (Savaresi and Morgera 2009: 16). Certainty of ownership also underpins the commerciality of the product, the carbon credit, without
which the ability to participate in transactions is grossly undermined. It
is no easy issue to resolve, however, and it has been stated that this
may be the “major burden for any mitigation scheme in the forest
sector that is based on a market mechanism” (Robledo, et al. 2008: 32).

Further, can credit be allocated equitably? It is believed that up to 50%
of deforestation is driven by poverty. There is a very real possibility
that the implementation of REDD+ could add to the inequalities
experienced by impoverished forest communities by failing to allocate
a fair share of the rights, benefits, and responsibilities of carbon
ownership, provoking further sources of conflict in an already unstable
forest sector (Robledo, et al. 2008).

Button captures the ambition of the international carbon market and
highlights why a sophisticated level ownership rights is needed to
underpin the entire enterprise:

In the forty or so years since the idea of using property or quasi-
property rights to regulate pollution was first conceived, energy and
environmental markets have become increasingly sophisticated, and
the role of speculators and specialised financiers in energy and
emissions markets has also increased dramatically. The plans to link
carbon markets into an international market means taking an old idea
into uncharted territory in terms of scale and complexity. The fact that
the carbon market is likely to be a finance-driven market is likely to
mean that the use of bureaucratic, legalistic language like
“administrative approvals” or “quasi-property rights” to refer to units of
trade will not be tolerated by the industry (Button 2008: 583).

Given that “confusion and disagreement over who should control or
own Indonesia’s forests is seen as the underlying source of the
problems in forest management” (Contreras-Hermosilla and Fay 2005: iii), identifying ownership of forest carbon and establishing a system of
property rights to underpin the trading in offsets from reduced
emissions from deforestation on top of the existing uncertainty shapes
as perhaps the greatest and most elusive challenge associated with
the development of a REDD+ scheme in Indonesia.
Figure 5. Forested mountains of Borneo, Indonesia. Photo courtesy Niclas Evestedt.
Chapter Three: Property Rights to Carbon

3.1 Introducing property

In examining how a new and very unique form of property rights has developed and whether it could serve to facilitate reducing emissions from deforestation, it is worthwhile taking some time to look back at how they have emerged over time.

The theoretical and philosophical foundations of property are as open to interpretation and debate as any. But separate from any attempt to condemn or justify the notion of property, it can be fairly safely acknowledged that at its core is generally the existence of a power relationship centred on the exercise of some degree of control over a resource. On top of this, then, we should also be aware that: “few concepts are quite so fragile, so elusive and so often misused” as property (Gray and Gray 2001: 32). Keeping in mind the fragile nature of property, we can turn to the development of the modern conception of property.

3.2 The development of property rights

The origin of the word ‘property’ is the Latin proprius, itself derived from pro privo which means, significantly, private or personal. In fact we see elements of modern property law stretching as far back as Roman times. Yet the conception of property that has become a pillar of western law today is for the most part only relatively recently formed (Bryan 2000: 8).

As feudal land control declined and society shifted towards mercantilism, John Locke’s philosophical contention of an individual right to property is conventionally regarded as where modern property originates. It has certainly been influential, but other shaping forces were also in play. It had become necessary to standardise customary practices when political control began to extend over a larger area of land and size of population, and the more widespread practice of
writing amongst lower level bureaucrats lent itself to the ordering and rationalisation of social practices. Importantly, more sophisticated records concerned with control and use of land began to be kept (Bryan 2000: 10). In the social and political context of his time, Locke formulated his argument primarily to justify the ability of the people to resist the absolute control of power in the monarch, and hence, did not intend to advance capitalist accumulation but rather rights granted to enable self-preservation in the face of abuse of power (Mouritz 2010; Bryan 2000: 11). Nevertheless it strengthened the case for individual rights of use and ownership of land, from which, in essence, western property has continued to develop, focused centrally on “the notion of private individual ownership, often regarded as the apex of legal and economic evolution as well as a precondition for efficient market economies” (F and K von Benda-Beckmann and Wiber, 2006: 2).

Merely reducing property to a history of progress towards an end-point of maximal economic function, however, fails to acknowledge its complex sociality, and in fact, its revealing nature:

All along, property has been representative of a larger metaphor of social relations: changing from being a signifier or moral bonds, to a signifier of a particular vision of natural right, to a signifier of the contract, to a signifier of asset value. Property properly understood is a complex metaphor that reflects various relational activities (Bryan 2000: 15).

Property as a system of human relationships and management of resources has in fact arisen out of very precise conditions of environmental and cultural experience, in obviously many different forms, and has shaped particular social practices and institutional arrangements (Penner 1997: 4-5). Bryan (2000: 7) suggests that in understanding the totalising effect property has on our social relationships we learn that “changes in the particular understanding of the role of property demonstrate more fundamental changes in the philosophical orientation of a culture.”
The highly rationalised and categorised tradition of western law which supports an individualised property system is very much a product of its society. Social differentiation and a specialised labour system are characteristic of a Western society. It follows, then, that western law is “to a high degree externally and internally differentiated”. It remains distinct as a relatively autonomous body apart from morals, ethics, and behavioural standards. Within the legal sphere are numerous differentiated categories of law: public and private, criminal and civil, property and inheritance (F and K von Benda-Beckmann 1985: 239).

This division into rational of categories of law enhances the efficiency and coherence of the legal form and has been crucial to the institutionalising of property as a field of western law. Ideal property rights are now characterised by the inherently rational traits that serve them in commerciality: exclusive, inheritable, transferable, and enforceable (Savaresi and Morgera 2009: 15). These traits represent too the increasingly transactional nature of property, with property relationships primarily concerned with the exchange value of the property right, rather than an “understanding of moral obligation or foundational sense of duty” (Bryan 2000: 14).

The emphasis on the exchange value of property reflects the usurpation of the agrarian conception of property, focused on the use of land, by new forms of property that, while rooted in rationalised
characteristics to ensure commerciality, are more dynamic and abstract (Hepburn 2009: 240). Made possible by the ability of property in the western legal tradition to continue to internally differentiate and distinguish a subject, an apparent characteristic of capitalist societies is the ability to generate their own “modes of propertisation” (Pasternak 2010: 15). This is described by Horwitz as the “destruction of older forms of property by newer agents of economic development” (in Hepburn 2009: 240). Where natural phenomena such as air, space and oceans once came under the public trust doctrine and could not be owned in private, today there are few resources that cannot be isolated for exclusive use. This is mostly because of a combination of technological developments and creative expansion of property principles (Hepburn 2009: 270).

A critical perspective on this phenomenon frames it as an ongoing process whereby “property rights are used to create commodities … (and then) to protect, police, and regulate the commodities produced”, a form of capitalist alienation of resources that feeds the model of expanding accumulation (Pasternak 2010: 15). However, property rights to carbon established for the purpose of operating within a global trading scheme, for example, cannot be characterised so singularly. In considering the underlying basis for the creation of proprietary interests to carbon – as part of the response to global climate change – we can see that carbon rights are, in a way, “rooted in a contextual network of mutual constraint and social accommodation mediated by the agencies of the state” (Gray and Gray 2001: 402). In this sphere, a form of interconnected and relative use entitlements undermine previously autonomous, secure property rights (Freyfogle 1988/89, in Gray and Gray 2001: 402), and the form of property is best described not as “individualised power over scarce resources, but an allocative mechanism for promoting the efficient or ecologically prudent utilisation of such resources” (Gray and Gray 2001: 402). The key question that remains is whether reducing increasingly disparate resources into singular, exchangable entities is viable given the complex and
interconnected reality of their existence in the natural world (Rose 1998: 170).

### 3.4 The emergence of carbon property rights

In its origins in land law the western tradition of property contains a principle, *numerus clausus*, which acts as “a protective concern for the schematic order of land law” by restricting new forms of property (Gray and Gray 2009: 138). As identified above, however, the number and types of property have expanded significantly in recent years, and become more intricate, reflecting the pace and complexity of a world becoming globalised and digital. This has brought unprecedented challenges to the concept of *numerus clausus*, to the point where property status has begun extending to the carbon stored in terrestrial systems (Gray and Gray 2009: 139).

Rights to carbon have emerged in the schema of proprietary interests because a convergence of social, economic and environmental concerns have identified this form of property rights as a contemporary imperative to help mitigate climate change (Hepburn 2009: 271). This ultimately stems from the approach driven by the UNFCCC to establish a regulatory carbon market to reduce GHG emissions. From a legal perspective, for the practice of storing carbon to be recognised and operate effectively within this framework, requires, firstly, clarity on who owns the sequestered carbon, and secondly, a property rights regime to support this ownership become a market asset by providing it with definition, security, and transferability (Kennett, et al. 2005). Without clarity of ownership the ability of a certified emission reduction (CER) to participate in a meaningful transaction is compromised. Given the complexity of accounting for terrestrial carbon, and the often contentious situation of tenure in developing country forests, “solving ownership of carbon credits can become the major burden for any mitigation scheme in the forest sector that is based on a market mechanism” (Robledo, et al. 2008: 32).

Through photosynthesis, trees and plants absorb carbon dioxide and harness it for growth. Thus, as they grow, carbon is sequestered from
the atmosphere and ‘sunk’ in the biosphere. Local conditions of climate, topography, soil and other factors influence the amount of carbon that a tree or plant can store (Bellamy 2009; see also Figure 6).

![Figure 7. Eucalyptus open forest near Marulan, New South Wales, Australia. A hemispherical photo can be used to calculate the Leaf Area Index of a forested area, which assists in understanding the carbon and water dynamics of this specific ecosystem. Just one small example of the scientific undertaking required to accurately account for sequestered carbon in an area, which in turn may be allocated as a carbon property right (Fujiwara 2010).](image)

A carbon right becomes a right to benefits and risks associated with the carbon sequestered within the trees, plants and soil in a specific area of land. Theoretically this right refers to the storage potential of the land – it is possible to possess a carbon right to bitumen car park, which contains none – however if an amount of carbon can be measured and verified as attached to the land, it may then extend to the creation of a carbon credit (Government of Western Australia (WA) 2005; Gould, et al. 2008: 262). This immediately sets carbon apart as a ‘resource’; unlike tangible resources such as gold and timber, which are extracted and then obtain their value as a product detached from the land, carbon’s value arises from remaining stored within the terrestrial biosphere, where it can enhance if the amount of carbon increases with plant growth, or decrease when the organic material
releases carbon after fire, clearing, decomposition or disturbance of the soil (Asare 2010: 11).

Carbon credits are broadly conceived of in equivalence to tonnes of carbon dioxide; that is, one carbon unit equals one tonne of carbon dioxide, sequestered or emitted. The prevailing trend is to characterise a carbon unit as a commodity, although Button (2008) argues that carbon also displays characteristics of a currency, which would be more satisfactory for trading purposes. That there is some conjecture over the commercial characteristics of the unit of trade gives some suggestion of the difficulty in ascertaining the property interest that underlies the carbon credit.

A right to carbon is a novel, *sui generis* right. In respect to rules stemming from the UNFCCC process, international law is silent on ownership of sequestered carbon, preferring to leave the task to individual legal systems to develop their own nationally specific frameworks (Norton Rose 2010). Theoretically, depending on the established legal principles of a country, separate ownership could exist for the land, the trees, and the stored carbon. As a large amount of carbon is sequestered in the tree’s root systems below the soil, this could create conflict in the event of trees being felled (United Nations Environment Programme 2004: 92). From an economic perspective there is a view that a proprietary interest in carbon operating separate from the land is advantageous because it reduces the full burden of management and corporeal ownership of the land, enhancing the transferability of the carbon credit and ultimately its utility and value. This, though, requires the support of a rigorous and stable legal system (Hepburn 2009: 247). For legal clarity it would appear most desirable if a system was developed that bundled rights together, particularly in circumstances of fragile tenure.

There are a number of legal interests that may be encountered in determining a property right to carbon sequestered in terrestrial systems. These vary greatly between, and within different jurisdictions, and could include:
- Land ownership (eg. by an individual, or in a communal fashion);
- Tenancy of the land (eg. leasehold, or traditional rights);
- The right to take from the land (eg. in the form of a profit à prendre or a usufructuary right);
- Separate ownership of trees, or, specifically, timber;
- Natural resource rights;
- Concession agreements (eg. to undertake forestry, or use water);
- The interest of a bank with a mortgage on the relevant land;
- Rights to land under constitutional law (Miller, et al. 2008: 169).

Any investment activity in the forest sector must necessarily be of medium- to long-term length to be at all sustainable. The insecurity of much forest tenure in developing countries plays a major role in the trend of deforestation, as it often encourages short term exploitation (Savaresi and Morgera 2009: 16). When the investment model centres on an intangible, novel property right, clarity and security of ownership becomes even more important.

As the onus is on individual nations to develop their own domestic framework of property rights to carbon, there is essentially a requirement for a government to develop supporting legislation. It would likely be difficult and problematic to attempt to frame carbon property rights within existing legal principles if the government was to remain silent. Miller et al (2008: 171) advise that carbon sequestration projects must necessarily commence with “water tight due diligence” and “comprehensive contractual provisions”, but in countries where property rights are complex or even non-existent these actions alone are unlikely to form a sufficient basis of surety.
The absence of domestic legislation on forest carbon ownership has not prevented some actors from attempting to establish a market. In fact, the international carbon market as a whole has in a sense been strongly characterised by a “learning by doing” approach, where projects are initiated before legislative action is taken on ownership, or in full knowledge that such clarity will not be provided (Button 2008: 580; Wilder, et al. 2005: 299). In part this is a product of the immediacy of the climate change problem, and the necessity to act swiftly, but there is also an element of commercial speculation. The forest carbon market is no exception. A strong case in point is the Ulu Masen avoided deforestation project in Aceh, Indonesia. This project operates in a legally uncertain context fundamentally because the proponents chose to develop their project rapidly without first clarifying legal ownership of carbon (Clarke 2010: 48-49). An ad hoc approach is unsatisfactory given the complexity and novel state of forest carbon property, because it is “likely that contracts, courts and the voluntary market would define the rights that are associated with forest-based emission reductions differently” (Passero 2008: 251). Not only does it create confusion, but it essentially renders doubtful the ultimate aim, reduced emissions and avoided deforestation.

The need for governments to be at the forefront of shaping the forest carbon rights landscape is emphasised by the potential dangers of leaving crucial elements of the design to the private sector. Where “vague commodities are created to fit the necessities of a market system”, and design is largely left to the actors in the market, “incentives for conservation will make way for profiteering, and later attempts by regulators to check the balance in favour of conservation will likely be rebuffed” (Rosales 2006, in Button 2008: 582; Button 2008: 582).

Is it realistic to think that developing countries will be able to act decisively, clearly and equitably on the issue of ownership of carbon? Particularly given the existing fragile tenure of most forested regions, and the governance challenges that plague the majority of the world’s largest land use emitters (see Table 1), if legal and policy development
for carbon rights takes place, is there a capacity to actually implement and operate a system effectively?

At present the signs are not encouraging. An analysis in 2009 of the Readiness Plans for REDD+ of 25 countries indicated that uncertain tenure was acknowledged with strong consensus as a critical issue for REDD, however little meaningful preparation was underway to actually tackle this problem. Most countries gave no mention to the issue of clarifying carbon rights (Davis, et al. 2009). This is having an adverse effect in the developing field of pilot forest carbon initiatives, with 11 out of 12 pilot projects analysed by Harvey, et al. (2010: 92) hindered by the question of legal ownership of carbon in the absence of domestic legislation.

Nevertheless, the establishment of carbon property rights is not without precedent. In regards to specific legislation defining ownership, the examples vary between a decision to place legal title to carbon solely in the hands of the state, through to vesting title in the land, and hence assigning carbon rights to landholders. Beyond this simple demarcation of approaches, the particular domestic context is seen to shape the more discrete elements quite precisely. A number of the approaches taken to date will be explored for guidance in examining the Indonesian context.

3.5 Different approaches to carbon property rights

Australia

The most comprehensive system of carbon property rights comes from Australia, where 9.4% of domestic emissions stem from LULUCF (DoCC 2009). Broadly, the Australian approach has been to create a separate right to carbon that runs in conjunction with the land.

The specific nature of the rights differs, however, according to location, because each State Government has chosen to legislate slightly differently. This has attracted criticism, with Hepburn (2008: 6) arguing that this has caused “unneccesary confusion, and complexity hindering the development of a transparent and efficient domestic carbon offset
market.” Further, the disparity in the classification “highlights the core uncertainty towards (the) proprietary status” of the right to carbon (Hepburn 2008: 7).

A notable aspect of the introduction of carbon rights in Australia has been the decision to have, in most states, carbon rights operate within established principles of common law. This approach sees a carbon right defined as a profit à prendre (right to take), existing in a similar manner to a right to take a fruit from a tree. Because the benefit of carbon sequestration lies in storage rather than in removing something off the land, the theoretical foundations of this approach have been questioned. The reticence to enact a statutory right to carbon in most states, other than WA and South Australia, is most likely caused by a “perceptional bias” that statutory property interests are merely “institutional land interests”. (Hepburn, 2009: 269-70). This sets carbon property rights apart from other subsurface natural resources in Australia, which are vested in the Crown and are eligible to be exploited only with government authority (Lim and Giskes 2004: 6).

The state of New South Wales (NSW) is home to the first operational emissions trading scheme in the world to recognise forestry sink projects (Gould, et al. 2008: 259). However the scheme trades in abatement certificates only, and does not define the legal nature of the carbon unit in terms of proprietary interest (Button 2008: 575).

The enactment of carbon property rights legislation in Australia has stimulated entrepreneurial activity in forest carbon trading. One company, CO2 Australia (see Figure 7), plants permanent mallee eucalypts on farms in regional areas of NSW, and in turn provides abatement certificates, representing the carbon sequestered in the activity, through the emissions trading scheme in that state. CO2 Australia pays landowners an amount up-front in accordance with the lease value of the land that the trees will occupy, in addition to paying for establishing and maintaining the health of the trees, which they can access through a formal arrangement (Gould, et al. 2008: 266).
Figure 8. Web page for CO2 Australia, a private company that has developed as a result of the creation of carbon property rights in Australia (CO2 Australia 2009).

New Zealand

The New Zealand government took a different approach. This was driven initially by the belief that because efforts to reduce emissions stemmed from the need to meet the country’s Kyoto Protocol target (committed to by the government) therefore all benefits, liabilities and obligations were *prima facie* vested in the state. As such, the New Zealand government took ownership of all sink credits or debits on private and public land that were allocated to the country during the first Kyoto Protocol commitment period.

As a result, owners of private forest plantations were deprived of a proprietary right to the carbon credits on their land, but were not responsible for maintaining that carbon. The government felt that this approach was necessary “to manage New Zealand’s overall response to climate change and avoid distortions” that could arise from differential treatment of pre- and post-1990 forests in the finer details of the Kyoto Protocol rules regarding LULUCF emissions (Gould, et al. 2008: 268).
This policy choice actually “led to a significant decline in plantation establishment and a net decrease in New Zealand’s forest production area.” The private forestry industry strongly opposed the decision, which was reflected in the fact that many plantations were felled, both in protest and responding to the lowered expectation of the value of the trees minus a personal proprietary right to carbon (Keliang et al. 2010: 20).

The policy was later reversed and the government devolved credits tied to post-1990 forests, allowing private forest owners to choose whether they wanted to use their new carbon rights to participate in the newly established nationwide emissions trading scheme (Gould, et al. 2008: 270; Cox and Peskett 2010: 4).

![Figure 9. Naturally fallen trees in View Hill, Canterbury, New Zealand. Photo courtesy Joel Mouritz.](image)

Cox and Peskett (2010: 4) point out that New Zealand’s carbon property rights regime is “well developed and is supported by advanced governmental institutional and scientific infrastructure for monitoring and verification.” The legal situation regarding indigenous ownership of land is also relatively clear and well understood. As developing countries’ legal systems have less support in their resources and institutions, it may be difficult to transfer much of the
New Zealand experience (Cox and Peskett 2010: 4). This is particularly the case where forest and land rights are contentious and legal traditions are unfamiliar with concepts like intangible resource rights.

A lesson that is likely to be fairly universal is the illustration that government decisions on carbon ownership can acutely affect forest and land use decisions by those in control of the resource. “Where governments are considering nationalisation (of carbon rights) the need for careful consideration of the implications of such a decision (is required)” (Cox and Peskett 2010: 4). In this situation it is evident that the critical requirement to consult with all landowners and stakeholders is enhanced.

**Ghana**

Ghana, which has extensive rainforest coverage, has indicated by its participation in the FCPF preparation for REDD+ that it is a potential REDD+ host. It is yet to clarify carbon ownership and faces significant challenges in doing so.

Ghanaian laws grant the state the authority to manage and profit from all forest resources, while owners of traditional lands are the owners of the land, in law. This situation means that the forest dwellers “who use and manage forest resources on a daily basis have no legal rights to those resources” (Asare 2010: 2).

An interpretation of the existing legal conditions suggests that the state is the *prima facie* administrator of carbon rights because it administers all natural resources on behalf of the people of Ghana. As the state is able to transfer rights to resources via concession, a proponent may receive authority from the government to implement a REDD+ activity and gain access to the benefits of the carbon rights. It is likely that because land ownership is often vested in traditional owners, any REDD+ activity would likely necessitate some form of agreement with traditional landowners to operate on the land.
The above is speculative legal interpretation only. In order to attract REDD+ activity Ghana would be served by clarifying some of the more delicate questions of law associated with land and natural resources (Chagas, et al. 2010: 20). There are also cultural and legal systems in place in Ghana that actually encourage deforestation for agricultural purposes: user rights become weakened when land is left uncleared (Asare 2010: 9).

Thus there appears to be significant hurdles to overcome in order to realise effective implementation of REDD+. It will be difficult to align the rights to carbon, which appear will go to the government, with the actual drivers of deforestation, as well as with the decision makers and users of forest lands (traditional owners). Without resolving these, the most important relationships regarding forest management in Ghana, REDD+ is likely to be ineffectual and will compromise the permanence of avoided deforestation projects located elsewhere (Asare 2010: 14).

**Mexico**

Relative to other developing countries, Mexico has a very strong community forestry sector (Corbera, et al. 2011: 310; Robles 2011: 2). At present it does not consider carbon ownership in its existing legal system, and although its readiness proposal to the FCPF mentioned land tenure issues as a risk to deforestation, it was less clear about what these land tenure issues mean for the design and implementation of REDD+ (Corbera, et al. 2011: 317).
Legislation for Sustainable Forest Development in 2003 considers sequestered carbon as an environmental service, but does not contain any specific mention of ownership (Robles 2011: 4). Interpreting the remainder of the legislation, it is believed to be implied that environmental services are “public goods provided by landowners, while the state assumes responsibility for establishing the most appropriate instruments to compensate them for such provision” (Corbera, et al. 2011: 318). It is worth noting, however, that the government has not objected to a few small private projects selling carbon credits to national and international investors, where landowners were considered de facto entitled to own the carbon rights.

Mexico is considered to have had success in “developing multifunctional uses of forests a the local level”, while the fact that it acknowledges the right of landowners to compensation for providing environmental services is a good sign for the prospect of REDD+ activities being implemented fairly and effectively (Robles 2011: 6; Corbera, et al. 2011: 322).

It will be necessary to clarify ownership of carbon rights and their benefits in addition to the existing forestry legislation, however. Any
rules made will need to take note of the high occurrence of agrarian conflict in Mexico which is partly attributed to the overlapping of statutes. Changes to forest legislation must therefore be as clear and simple as possible (Robles 2011: 6).

A varied tale

What conclusions can be drawn from examining property rights?

Unfortunately, in this field there are few easy lessons. The four examples provided offer four rather distinct legal systems, and even more varied approaches, or lack thereof, to ownership of carbon rights.

Forest carbon rights are by their nature complex rights, because they are a fairly recent development of property law, and as the forestry sector has been held back within the UNFCCC process there is no solid precedent as yet on how to establish forest carbon rights, particularly in a developing country.

The variation evident in the examples does clearly highlight one major theme. This is that because the legal vacuum on forest carbon rights from the UNFCCC level demands states develop their own regime, the paths taken by individual nations is going to vary according to the particular conditions of domestic law – which is highly differentiated throughout the world. Hence the viability of property rights to carbon in Indonesia will be shaped most of all by Indonesian law and society itself.
Chapter Four: The Law, The Land and Forests in Indonesia

4.1 The ‘imagined community’ of Indonesia

Taking Anderson’s (1983, in Lindsey and Santosa 2008: 2) description of modern nation states as “imagined communities” – groups of people bound together potentially sharing little else than other membership in the abstract political entity they reside within – in Indonesia we have perhaps one of the most intricate, multifarious and sprawling “imagined communities” in the world (Lindsey and Santosa 2008: 2). Simply reflecting the reaches of Dutch colonial expansion throughout the East Indies, the boundaries of the state happen to catch within them 17,400 islands and 240 million people. The vast population of the archipelago includes more than 200 ethnic groups and even more languages, and a breadth of religious followers ranging from the world’s largest Muslim population to subsistence-based animist tribal groups (Colchester, et al. 2010).

Figure 11. Satellite image of Indonesia (Google Maps 2011).

The Dutch propagated a plural form of law throughout the region. Where they felt it would serve their interests the colonists imported European legal principles – particularly when creating a plantation industry for exports – while customary practices carried on without much interference away from the plantations and main settlements.
Thus despite a shared colonial history, the traditional cultural diversity spanning the region remained very much in tact. Since Indonesia became independent of the Dutch in 1945 efforts have been made to mould a unified spirit out of this sometimes-disparate community, with the promotion of a national mythology steeped in unity against the colony, and the introduction of an official national language, Bahasa Indonesia (Fitzpatrick 2008b: 501). *Bhinneka Tunggal Ika* ("unity in diversity") is Indonesia’s official motto and while it captures two of the defining themes of the nation, quite often they fail to converge as neatly in life as in maxim.

This is reflected in the development of law in Indonesia. Though an association with the ‘civil law’ system of Continental Europe is an accurate one given the strong influence of remaining Dutch statutes, there exists a deeper plurality to law in Indonesia, which in fact integrates several different legal traditions (Lindsey and Santosa 2008).9 Primarily this stems back to the circumstances of the inherited Dutch system, but in undertaking to develop a body of endemic, unifying legal principles by “distilling pan-Indonesian principles from a multicultural archipelago and applying them to national law”, independent Indonesia has ensured that further layers have become entwined in this truly vivid and complex “imagination”.

### 4.2 Foundations of Indonesian law: Persistent tension

Legal plurality is a common facet of post-colonialism (Lindsey and Santosa 2008: 3). Geared towards exploitative agricultural and resource export economies that generated wealth for the home country

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9 The following captures the plural nature of Indonesian law that still exists today. Responding to a question about the place of Islamic law in national Indonesian law, it was declared in an Indonesian court: “If the issue [in contention is whether] Islamic law is … a source of law, it can be said that Islamic law is indeed a source of national law. But it is not the only source of nation law, because in addition to Islamic law, customary law, western law and other sources of legal tradition are sources of national law” (cited in Butt 2010a: 297).
rather than broader economic development for the colony and its people, a lingering division of rural poverty and environmental damage and an inherited dualist legal and economic system is a common hangover. The typical response has been to move into nationhood by creating a modern legal system. Indonesia’s approach has been to cultivate a legal order based on a distinct syncretic balance of unitary modern state law informed by aspects of traditional customary village governance that were deemed to possess universal relevance (Fitzpatrick 2008a: 224-225).

In formulating this “nationalist legal order based on a romanticised vision of village life”, however, Indonesian law has become a mass of contradictions (Bourchier 2008: 94). Writing in 1975, a bold Indonesian lawyer captured the fundamental nature of the problem when he described the “hopelessly confused and tangled impasse” of Indonesian legal development, which persists to this day (Alisjahbana 1975, in Bourchier 2008: 94).

This discord in Indonesian law has foundation in a clash between opposing traditions of legal philosophy that was evident in the early combination of Dutch-interpreted customary law in the romantic fashion alongside the positivist European law of the colonial bureaucracy. The thread of tension between positivist and romantic legal thought identified by Bourchier (2008) has continued to undermine the consistency and effectiveness of Indonesian law. It persisted in the drafting of the Constitution in 1945 as efforts were made to incorporate the unlikely balance of romantic village style tradition of consensus and deliberation in decision making with the deeply positivist notion of the state as a hierarchy of laws with an overarching supreme legal principle. Throughout the New Order period from 1966-1998, President Soeharto and his government would often invoke the national ideology, *Pancasila*,\(^\text{10}\) on its supreme authority for

\(^{10}\) *Pancasila* (two Sanskrit words, ‘panca’ – five, and ‘sila’ – principle) comprises five “inseparable and interrelated principles”: 1) Belief in the one and only God; 2) Just and civilised humanity; 3) The unity of Indonesia; 4) Democracy guided by the inner
reasons purported to be in line with ‘the public good’, but in a manner that chaotically undermined the strict legal structure it was meant to crown (Bourchier 2008: 99-102). That these contradictions can exist at the core of Indonesian law goes a long way to explaining why Indonesian law has been so frequently manipulated and undermined.

A further underlying tension in the attempt to import purportedly endemic Indonesian qualities to the modern law framework is the seeming incongruity of customary practice (adat) with positive law.

Consistent with the diversity that exists throughout Indonesia, the notion of adat is highly variable. Adat manifests differently in Hindu Bali compared to dominantly Islamic Aceh, and again within the matrilineal Minangkabau of West Sumatra compared to subsistence farming communities in Eastern Indonesia. While it might be assumed that adat is a dated, primitive practice of custom in modern society, it shows strong signs of resilience and remains highly relevant to communities (Fitzpatrick 1997: 196). Indonesia has a very high proportion of rural citizens whose lives are very much influenced by adat (Butt 2008: 627). An Indonesian NGO network places estimates a figure at 50 to 70 million people living in adat communities (Alliansi Masyarakat Adat Nusantara, in Dunlop 2009: 18).

Despite this breadth of numbers and the diversity of adat communities across Indonesia, several characteristics have been identified as pervasively common, to the point where they are considered universal principles by adat scholars. The key underpinning notions are an emphasis on maintaining an order of equilibrium, and of collective unity. These principles influence two of the key elements of the process of adat decision making: deliberation and consensus (mufakat and musyarakat) and mutual assistance (gotong royong) (Fitzpatrick 1997: 176-9). Warren (1993, in Fitzpatrick 1997: 177) summarises wisdom in the unanimity arising out of deliberations amongst representatives; 5) Social justice for the whole of the people of Indonesia (Thorburn 2004: 47).
village *adat* as such: “(It) is basically about the ordering of relationships – human, material and spiritual – in a system where cosmic and social forces cannot be divorced.”

![Figure 12. Rural village and surrounding agriculture and forest in West Sumatra, Indonesia. Author’s photo.](image)

Community practices developed within the *adat* systems make use of local resources, including forests, to help meet basic requirements. This extended to forms of communal land management, for example swidden agriculture, that evolved according to local environmental conditions and changing cultural needs (McCarthy 2000: 102). While the ‘universal traits’ would have influenced management practice, the way they were applied depended very much on specific cultural and environmental conditions. When these principles are integrated into formal law and assumed in the name of national economic development we begin to see the gross contradiction that the integration of *adat* into formal Indonesian state law has become (Fitzpatrick 1997: 179).
Customary “law”, as interpreted by colonial administrators, has often been a case of creating “traditional” structures that were in fact new entities and were therefore a construct – even if an attempt was made to avoid doing so largely in analogy with western legal principles (McCarthy 2006: 11). Adatrecht (adat law, or hukum adat) is a Dutch invention arising from a romantic legal interpretation of Indonesian customary practice that its exponents insisted must form a part of a plural colonial legal system (Bourchier 2008: 96-7). Ultimately, it was a construct that morphed actual custom into a sphere of western legal thought. To allow it to be put into practice in the colony, it had to be moulded to achieve some level of equivalence with Dutch legal terms. The conversion of adat decision making processes into western procedural courts gave adat law another new dimension – one that often led to misunderstandings and unjust decisions (F and K von Benda-Beckmann 1985: 240; 271) The introduction of the adat element to Indonesian law did not have achieve its (likely) intended effect of “internally consistent codes of action analogous to Western written law”, operating discretely and clearly aside from European law, but instead seemed to cultivate “negotiable and internally contradictory repertoires that were applied with discretion” (Merry, in McCarthy 2006: 12).

Because Indonesian law is weighted with these evident paradoxes, it is abused and misused, either corruptly or through lack of understanding, or largely ignored. This incoherence hints at the ineffectual nature of much Indonesian law, and the strong perception of its invalid application in practice. This is exemplified in the law as it relates to land in Indonesia.

4.3 Indonesian land law and forests

The vast destruction of forests that took place during the New Order period is mostly attributed to a lack of institutional capacity to manage the extensive stretch of forests, as well as ineffective enforcement of forestry legislation. McCarthy (2000) has studied the history of deforestation in Indonesia and believes there is a third current
underneath these factors, which is associated with the allocation of property rights. Thus analysed, the history of forestry management in Indonesia is to be viewed “in terms of the changing property regimes operating in Indonesia’s forests” (McCarthy 2000: 101).

Figure 13. Heavily forested coastal area of Flores, Indonesia. Photo courtesy Sara Hedfors.

HW Daendels was the first Dutch colonial Governor General. In 1870 he established the *Agrarische Wet* (Agrarian Law), including the principle of *domeinverklaring*, which set out that all land not ‘in use’ (‘waste land’) was owned by the state (Wallace 2008: 197). He also introduced under the 1865 Forestry Law what was “the first government forest service that held exclusive rights to control land, trees and forest labour for the benefit of the state, and with restrictions on local community non-subsistence forest access” (Soepardi 1974, in Wallace 2008: 197). Both of these laws had tremendous influence in that they laid the foundation for later Indonesian legislation that provided for extensive land and forest management by the state, and invalidated indigenous land management and forestry systems (Wallace 2008: 197). This “established the genetic pattern of the Indonesian state, which was intended primarily to make exploitation efficient” (Lev 1985, in McCarthy 2000: 103).
in principle the Dutch colonial system overrode the tenurial systems of traditional forest communities, however the great expanse of forest land outside of Java meant this had little impact, and in effect, local management systems continued operating outside of the law (McCarthy 2000: 103).

After independence, attempts to distribute land more equitably were purportedly made through the Basic Agrarian Law (BAL), which had some recognition of adat tenure systems. The law continued, though, to assert state control over ‘unowned’ land and and emphasised the superiority of state sovereignty over adat (McCarthy 2000: 104; Wallace 2008: 198). Less concerned with forest land, the essential priority of the BAL was to encourage private individualisation of communal lands through titles known as hak milik, which was thoroughly Dutch inspired (F and K von Benda-Beckmann 2006: 202). This reform never really took hold anywhere other than the already developed areas of Java. Only 20% of Indonesia’s 58 million land parcels have ever been registered. Communities living in accordance with hak uluyat (the closest equivalent to adat ‘ownership’) are unable to register their use of land, and it is highly likely that many local communities are unaware of the notion of registration anyway (Butt 2008: 628).

The 1967 Forestry Law was more relevant to the outer island areas of the archipelago. 114 million hectares, 75% of the land mass of Indonesia, was declared forest reserve under this legislation, with the government holding the legal authority to the resources within, and the ability to distribute concessions to exploit resources or other land uses (Lindayati 2000, in Wallace 2008: 198). This vast tract of land was ostensibly put under the administration of the Forestry Department, which issued hundreds of concessions over the next three decades that were direct causes of immense deforestation (Marr 2008: 251).
The BAL and the 1967 Forestry Law represent two of the key failures of Indonesian law. The stated intention of the BAL was to rectify the impacts of the plural colonial land law and provide legal certainty to Indonesian citizens; all in pursuit of national unity. Yet the duality of the law – which incorporated essentially alien Dutch property concepts that could not resonate with the people, as well as *adat* principles used for perverse means of furthering economic development and arbitrary bureaucratic land control – rather than supporting actual *adat* communities – fundamentally undermines its legitimacy, illustrating the common failing of the syncretic approach to law in Indonesia (Fitzpatrick 1997, 2008a).

The Forestry Law, meanwhile, assumed the majority of Indonesia’s land surface from the ambit of the BAL in an understanding, not officially legislated, between the Forestry and the Agrarian Affairs Ministries (Marr 2008: 252). According to its own interests, the Soeharto government of the New Order was able to allocate legal property rights across the archipelago wiping out millions of hectares of forests (McCarthy 2000: 104). The way that this law was able to pave the way for conditions of corruption, nepotism, and centralising of elite wealth and power came to characterise the entire rule of government in itself (Slaats 1999).
Wallace summarises:

Land law and administration are not the only areas affected by inadequacies of the Indonesian legal system, but the struggle for coherence in this body of law and its application is particularly evident throughout the personal, commercial and public law of a country in which the rule of law remains a remote goal (2008: 202).

4.4 Recent legal developments

After the Asian financial crisis of 1997 finally brought an end to Soeharto’s extended period of governance and resource driven economic growth, Indonesia has experienced a rapid period of legal reform. Known as Reformasi, the defining feature is a shift to actual legitimate democracy, and to a lesser extent the decentralisation, or regionalisation, of governance.

The Regional Governance Law of 2004 sets out the six areas which remain the central government’s exclusive interests: foreign affairs, defence, national monetary and fiscal policy, internal security, the justice system, and religious affairs. Forestry is one area in which the regions are intended to have control, although other legislation challenges this view (Arnold 2008: 84).

The 1967 Forestry Law was replaced with a new statute in 1999. While it does have reception of a more ecological worldview with some mention of sustainable forest management, it continues to assume control of all forest lands, and though there is enhanced recognition of adat rights, it explicitly refuses to acknowledge ownership on adat lands (Marr 2008: 253).

The 1999 Forestry Law lists three types of forest, classification of which is carried out by the central government:

- Production: to support commercial exploitation of forest products;
- Protection: to protect the direct benefits provided by certain forests to humans, such as through controlled waterways and prevention of erosion;

- Conservation: to conserve ecosystems based on the intrinsic value (Arnold 2008: 86).

The decentralisation of government has seen deforestation continue according to a new dynamic. Where previously the over-issuing of concessions by the central government was the main source of deforestation, since the passing of regionalisation legislation “the conflicting interests of forest communities, regional governments and the central government have surfaced and created a far more chaotic situation” (Arnold 2008: 88). The chief problem is now illegal logging.

The failure of regionalisation to alter the course of the deforestation issue in Indonesia vindicates the view that land management suffers from “intractable problems... sourced in property theory” that can not be addressed by administrative reform (Wallace 2008: 197). The ever-present inconsistencies and contradictions that have long been perpetuated are another factor. That the central government attempted to retain its decision making power in the 1999 Forestry Law, despite the effect of regionalisation legislation to pass on responsibility for forest management to regional governments, does not only absolve legal clarity, it undermines any prospect of sustainable forest management because interests of management and control are not aligned (Arnold 2008: 91).

This has been a common theme during regionalisation. With both two new levels of regional authority granted legislative and executive drafting powers, the new lawmakers of the Reformasi period “have added great bulk and complexity to the Indonesian legal system”. The number of new laws passed cannot be determined because there is no central repository, however the legislatitive activity has been substantial. Many new laws have been criticised for being “unclear, unnecessary, misdirected, exploitative, or even unconstitutional” (Butt 2010b: 179). While a new rule establishing a hierarchy of laws is
intended to provide clarity for dealing with contradictory legislation, the review process for determining the validity of laws is ineffectual. Many defective regional regulations will therefore remain in code.

In the Indonesian context, this is catastrophic. Even before ‘regional autonomy’, Indonesia’s laws and its legal system were largely dysfunctional and disrespected by its citizens and governments alike. Regional autonomy has put law at risk of becoming entirely irrelevant (Butt 2010b: 196).

The forestry sector has a gluttny of complex and contradictory regulations with a history that goes back well before regionalisation. Over 100 regulations have been issued since 1967, from Presidential Decrees, to the regional PerDa of recent times. This makes it nearly impossible to conform and adhere completely to the law (World Bank 2006: 19). The present conflict of authority between levels of government in the forestry sector is simply a newer and enhanced symptom of the fact that “Indonesia’s legal system has no effective mechanism for resolving even fundamental inconsistencies in the nation’s legal code” (McCarthy, et al. 2006, in Takacs 2009: 50).

4.5 The lingering perception of land and forest law

In this examination of the ‘property regime’ that has developed over Indonesia’s land and forests, the repeated themes of contradictions and flaws, weak recognition of community rights, and arbitrary application of law overwhelmingly suggest that it is an unstable system.

This perception is best summarised by Fitzpatrick’s (2008a: 225) breakdown of the fundamental assumptions underpinning the law governing Indonesia’s land and forests.

The following paradigms represent how Indonesian law is ostensibly intended to operate:

1. Indonesian law consists of, or is best understood through, a dualistic division of adat and formal law.
2. Unified law and uniform legal consequences may be created through universalist statutes.

3. Universalist statutes that syncretically incorporate *adat* principles into Western-style law best cater for legal unification in Indonesia’s diverse customary environment.

Fitzpatrick challenges these paradigms by then describing the way Indonesian law functions in reality:

Unitary law in Indonesia’s pluralist environment does not have uniform legal consequences but in fact has a highly discriminatory application... (and) incorporating universal *adat* principles into Western-style law has not succeeded in creating post-colonial national law, but has been used perversely by the state to justify ad hoc bureaucratic domination of land administration (Fitzpatrick 2008a: 226).

We draw from this little faith that the Indonesian legal system is of sufficient stability and rigour to support a system of property rights for carbon. On the advice that it is most desirable that such rights are supported by strong governance, institutions, clear tenure and a non-hostile existing property regime, it is hard to possibly imagine a system of carbon property rights being developed in Indonesia that is analogous of, say, Australia or New Zealand.
Chapter Five: Towards Rights Under REDD+ in Indonesia

5.1 The need to exercise caution with REDD+

We take it as quite normal that a handful of men back in Toronto can cobble together a company with less history than my dog, get online, and secure the sub-surface rights to a place that they have never been, of which they have no experience in the narratives, of which they have no connection to, and secure simply by promising the government a certain revenue flow either in taxation or royalties. They secure the right to it by definition in their own self-interest and leave that landscape transformed and indeed violated forever. We take this as a given but it’s highly anomalous in human affairs.

– Wade Davis, 2010

Before looking specifically at the feasibility of carbon rights in the Indonesian context, it is worth turning back to the development of property rights in the Western tradition to identify some of the characteristics that have made it possible for the above scenario to be played out in contemporary society.

Bryan (2000: 15) argues that the schema of modern property, where the individual assumes the role of “atomisitic transaction maker” and assets in one jurisdiction can be easily recognised as similar assets in another, forms part of a worldview that attempts to exclude other conceptions of reality because it presents the “fundamental model … upon which all legal arrangements that use the word ‘property’ is based”. It is the expansion of this purportedly ‘universal’ model of property that permits circumstances of seemingly abstract resource exploitation as described by Davis. Yet it is actually only the relatively recent creation of the modern nation-state that has allowed this model to become pervade and impose itself upon non-state governance mechanisms and social norms that were developed specifically to local conditions in order to manage communal resources (Fitzpatrick 2006).
That property has come to this point reflects the sway in the philosophical orientation of the West towards self-interest as the fulcrum and consumption as the prevailing pattern. It is argued that this misconstrues our nature as human beings (Bryan 2000: 7). What is quite evident is that this convergence of self-interest and continued consumption of goods is at the essence of the problem of climate change. This trend, and more acutely, the increasing disconnect between the actual ecological and intrinsic value of forests and the property type which is imposed upon them (mostly in the form of state-allocated concessions), that is at the heart of deforestation (Fitzpatrick 2006: 1019).

Considered this way, it is easy to be sceptical of an approach that, in attempting to respond to climate change, still fully embraces and is reliant upon the conceptions of individual property, universally transferable and abstract assets and a market framework that enabled and perpetuated the very problem it responds to.

The counter argument to this cynical view is that in finally providing forests with an economic value, REDD+ simply corrects the significant market failure that presently exists in developing countries (Ebeling 2008). In a way it is also almost an inverse form of resource capitalism in that payment is received for conservation, rather than exploitation of a resource; though the prominence of the market mechanism in the operation of REDD+ retains a high level of commerciality.

However this frames the problem far too simplistically and ignores the dysfunction of governance and property systems endemic in many of the major potential REDD+ host countries. REDD+ is a complicated concept that will require substantial financial assistance and institutional support in its development, implementation and ongoing operation. Its very complexity, and reliance upon the market and external investors, necessitates that the central ingredient, the offset of forest carbon emissions and subsequent product of a carbon credit, is underpinned by a high degree of certainty and clarity, particularly in regard to ownership. The not-straightforward process of establishing
carbon rights in Australia and New Zealand demonstrates the difficulty of conceiving legal property to carbon, and these particular examples are not even linked to international markets. It would appear that expectations of an imminent, thriving REDD+ scheme are unrealistically optimistic, ignorant of the reality of property systems in developing countries, as well as the exclusionary, universalist worldview that presumes the primacy of Western property and its ability to translate into all legal and social environments.

The volatile post-colonial property regimes of highly forested countries have historically shown a reluctance to transpose into their legal systems concepts of Western property that are far more straightforward than carbon rights, such as individualised land titles. Furthermore, Fitzpatrick (2006: 1009) insists that calls to introduce security of tenure are impractical and ignore the fact that “the process of establishing and securing those rights itself creates new forms of uncertainty and conflict.” In particular, attempts to formalise property affected by customary practice often creates a layered situation open to increased disputes in the context of different actors appealing to different sources of law to validate their interest in a resource (McCarthy 2000: 113).

When a modern, unitary state law is established it is common to see previously successful non-state resource governance systems invalidated in the new legal order. A common example is found in Indonesia where, for instance, the dispersal of forest concessions to private interests leads to a decline in traditional land management. If access and use of swidden areas, for example, is compromised by the imposition of new commercial titles to the land, local communities’ ongoing use of resources in their traditional manner becomes classed as “theft” and their presence in the area designates them as “forest squatters” (McCarthy 2000: 110). Fundamentally, the consequence of this unstable situation is that the constructed property regime becomes “a polynormative system of official law, semi-legal practice, and widespread illegality” (Fitzpatrick 2006: 1015).
This is the reality of the conditions within which REDD+ will operate. If it is to have any chance at successful development, it is imperative that it considers soberly the difficult challenges faced by the introduction of concepts such as carbon property rights into potentially unstable and volatile property systems. This is critical across all potential REDD+ countries; participants without clear legal frameworks and supporting institutions risk contributing to a global-level leakage problem. As displayed by the discussion of land and forest law in Chapter 4, the Indonesian context is no less deserved of this warning.

5.2 REDD+ in Indonesia: Underway and uncertain

Government action underway

Following its earlier prominent advocacy for avoided deforestation in the UNFCCC process, the Indonesian government was quick to take policy and legislative action in anticipation of an international framework (see Figure 12). It has entered bilateral agreements with developed country governments, including the Indonesia-Australia Forest Carbon Partnership intended to develop carbon accounting standards and implement demonstration REDD+ activities (Department of Climate Change and Energy Efficiency 2010), and an agreement with Norway to enact a two-year moratorium on granting new forestry concessions in exchange for USD$1 billion in financing (Norad 2010). By March 2010 there were over 25 REDD+ demonstration or voluntary avoided deforestation projects underway within the country (Sarsito 2010).
Most importantly to the issue of carbon rights, Indonesia has begun enacting the world’s first legislation on REDD+. While on first glance this seems a progressive step by the government, closer analysis of the legislation illustrates that ownership of carbon has not been fully resolved.

**Indonesia’s REDD Regulations**

Article 33(3) of the Constitution of the Republic of Indonesia 1945 declares that “the land and the waters as well as the natural riches therein are to be controlled by the state to be exploited to the greatest benefit of the people.” From this constitutional basis the early implication is that the state will thus extend their control of forest resources to the carbon retained within them. It should be noted that it clearly provides for state control rather than state ownership. As the following description shows, Indonesia’s recent regulations on REDD+ do not expressly clarify carbon ownership, however it would be sensible to assume that given the historical approach to managing natural resources in Indonesia, there will always be a primacy of the authority of the state in relation to forest carbon.

The Indonesian National Regulation on Forest Zoning, Management and Utilisation 6/2007 authorised regional governments to issue licenses for utilising environmental services in forests, including ‘carbon sequestration and storage’ (Article 33(1)(f) in Clarke 2010: 49).
Here we see an equivalence of carbon with logging, for example, with the government possessing an ability to regulate as an economic activity. In this respect it differs from the Mexican conception of carbon sequestration as an environmental service for which compensation could be granted to local communities.

After this early indication of Indonesia’s willingness to incorporate carbon rights into legislation, the government enacted a Working Group on Climate Change within the Ministry of Forestry (Ministerial Decision 13 of Ministry of Forestry 2009), and not long afterwards, a series of PerMenHut REDD (REDD Regulations) which are considered to lay the foundations of the world’s first legislated domestic REDD+ regime (Covington and Baker & McKenzie 2009: 11).

There is no real surprise that enabling legislation for REDD+ would come first from Indonesia, where the pace of legislative fervour, sometimes coming from different directions in the sprawling mass of governing authorities, does not necessarily correspond with comprehensive, or even sufficient, detail and effectiveness of law.

The PerMenHut REDD have been enacted in advance of an international REDD framework and therefore risk not aligning with an eventual international UNFCCC compliance scheme, potentially compromising the eligibility of Indonesian REDD+ projects to participate (Covington; Baker & McKenzie 2009: 13).

The PerMenHut REDD specify the types of forests within which REDD+ activities can take place, and also that a project proponent must comprise of national entity and an international entity to provide project funding (PerMenHut P.30/2009 on Procedures for REDD). The project proposal must be assessed by the Ministry of Forestry, and ultimately verification of the project is conducted by a National Registration Body (Badan Registrasi Nasional) (PerMenHut P.36/2009 on Procedures for Licensing of Commercial Utilisation of Carbon Sequestration and/or Storage in Production and Protected Forests).
The *PerMenHut REDD* are considered to lack detail in terms of the mechanics of project implementation, particularly given the importance of projects being consistent, and ultimately to an international standard. There is also uncertainty regarding the amount that the government will levy project proponents, either in terms of REDD+ credits or an ordinary monetary tax (Covington and Baker & McKenzie 2009: 13). The *PerMenHut REDD* has been criticised by the UN Committee on the Elimination of Racial Discrimination regarding consideration of customary rights in circumstances where projects may encounter *adat* forest (Savaresi and Morgera 2009: 32).

*PerMenHut* 36/2009 sets out the instrument used to turn carbon sequestration into an economic asset, though this is not explicitly a carbon property right. Rather, rights to carbon are framed as permits, issued by the state, for utilising environmental services, known as *Izin Usaha Permanfaatan Jas Lingkungan* (IUJPL). These grant the holder of the permits to store and absorb carbon, and other environmental services, for a period of at least 30 years. These cannot be granted to foreign entities (Covington and Baker & McKenzie 2009: 23; 25).

**Remaining uncertainties and challenges**

The early approach to carbon rights is typical of Indonesia’s historical management of forest resources. Ownership or proprietary rights to carbon that can be established in developed countries like Australia, with a property regime based in highly individualized rights, are not conceivable in the Indonesian context. Instead, interests in carbon are always likely to have the characteristic of being dispersed by the central government, much in the same manner that logging and mining concessions are. The main concern with this equivalence is that REDD+ activities could become as tainted by corruption, exploitation and disregard for community rights as those industries. Moreover, the authority to issue concessions as IUJPLs by the state stems from the constitutional mandate for state control of natural resources. The potential for legal challenge by communities with customary title (*ownership*) means that when REDD+ activities encounter customary
land, a level of uncertainty will be inherent. This uncertainty is compounded by the fact that, while by implication forests are classified as state land, only around 12% has been officially gazetted. The possibility for conflicts to arise in the future is highly likely (Clarke 2010: 48; 50). There is always the possibility that new forestry legislation will conflict with the customary norms that forest communities employ to manage forest resources. If adat communities are not integrated into the REDD+ process, the likelihood of incurring community resentment, sabotage and encroachment will be very real, and undermine confidence in Indonesian REDD+ projects.

Finally, it has to be emphasised that REDD+ is fundamentally underpinned by a fairly abstract legal construct, the notion that an individual or entity possesses ownership or control of an element stored within the biomass and soils of a forest. Indonesians have a strong reputation for ignoring new legal developments that bear little resemblance to the non-legal norms and informal practices of traditional and semi-traditional land holdings (Wallace 2008: 237). The dismal failure of “the empty dream castle” of the BAL land titling instrument hak milik is the premier case in point (F and K von Benda-Beckmann 1999: 18). Intellectual property is a further example; an ineffectual legal transplant that has failed primarily because intangible goods are not recognised under adat, which is based on “concrete, real and visible juridicial constructions” (Mahadi 1991, in Butt 2008). The history of failed proprietary interests indicate that rights to carbon are unlikely to resonate strongly with the Indonesian population.

Not that it is likely that the state would have ever devolved its primary authority over the control of natural resources in the context of carbon rights. It can only be hoped that REDD+ will operate in circumstances that are vastly improved on the unstable and inequitable conditions that have dominated the regulation of land and forests by the dominant authorities of the Indonesian archipelago for a very long time.

It is interesting to reflect on the words of the young ‘native’ writer and narrator of the Indonesian novel Child of All Nations, set in the Dutch
East Indies in the early 20th century. Perhaps it really is a matter of the more things change, the more they stay the same.

Before us, the island of Java was swallowed up by the darkness. Here and there were lights like yellow-reddish fireflies. There was life there, the greater family of my people. They are not allowed to copy America or France, either directly or via the influence of others; they have to stay in their present state for ever.

‘They are the source of earnings for big capital,’ Ter Haar went on. ‘Everything must be turned into a source of profit. From every centimetre of thread that is sewn into a torn garment, from every stride that makes itself felt on the earth. And in the towns of Europe and America, from every mouthful of water. Maybe in the future they will take profits too from each cubic centimetre of air we breathe.’


Figure 16. Fisherman on Lake Maninjau, West Sumatra, Indonesia. Photo courtesy Joel Mouritz.
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