
FOREST CARBON TENURE IN ASIA- PACIFIC

**A comparative analysis of
legal trends to define carbon
rights in Asia-Pacific**

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CONTENTS

Executive Summary	5
Background	6
Towards a low-carbon economy	6
The “Marrakesh Accords”	6
Legal issues surrounding the use of forests as carbon sinks before REDD+	7
REDD+ in the context of the UNFCCC Negotiations	8
REDD+ and forest carbon rights in Asia-Pacific	9
Forest carbon tenure and REDD+ in Asia-Pacific	10
Forest tenure in Asia-Pacific	10
Definitions of carbon rights: The latest developments in Asia-Pacific.....	14
Institutional responsibilities impacting carbon ownership schemes	18
Existing laws and regulations linked to carbon rights	22
Conclusions & Recommendations	39
References	43
Legislation Cited	45

Executive Summary

The complexities of the United Nations Framework Convention on Climate Change (UNFCCC) negotiations and Kyoto Protocol, highlighted several issues concerning the approaches to be adopted to use, promote and regulate the use of forests as carbon sinks, reservoirs, service providers and source of renewable energy.

Recently, inside and outside the UNFCCC negotiations, a series of efforts have begun to develop mechanisms for “Reducing Emissions from Deforestation and forest Degradation” (REDD+). The UNFCCC in Cancun (Mexico), held in December 2010, identified several areas where a balanced “package” of outcomes could be agreed. These issues include reducing emissions from deforestation and forest degradation in developing countries, including conservation, sustainable management of forests and enhancement of forest carbon sinks (REDD+). Those developments pose dilemma for decision-makers and legislators to establish how climate change mitigation and adaptation initiatives will have to address forest tenure issues in order to foresee, plan and distribute risks and benefits derived from carbon sequestration activities.

Most Asia-Pacific countries do not specify ownership of sequestered carbon. Presumably, ownership, or substantive use rights of forests should be the first step for determining the entity most likely to have rights to carbon sequestered by forests. This is particularly true in Asia-Pacific, considering that many forest-dependent communities reject the notion that carbon can be divided and sold separately from other forestry rights. Therefore, a clear understanding of forest tenure and ownership in Asia-Pacific should be the first step to determine who owns carbon (I). Carbon rights have been defined in different ways by international experts, and a comparative analysis of advanced legal frameworks in integrating specific provisions on carbon rights highlights the latest developments in this respect (II). As the majority of Asia-Pacific countries have not yet adopted specific definitions on carbon rights, identifying institutional responsibilities and instruments endorsed by Asian-Pacific countries with respect to forest carbon is a key element to articulate rights on carbon. (III). An in-depth analysis of the forest tenure legislation follows, focusing on the implications related to ownership or usufruct rights in carbon and benefit sharing mechanisms (IV). Finally, conclusive thoughts focused on national legislations and final recommendations pave the way for upcoming considerations to define carbon rights in Asia-Pacific (V).

Background

Towards a low-carbon economy

In 1992, most countries joined the United Nations Framework Convention on Climate Change (UNFCCC), to start considering what can be done to reduce global warming and to cope with temperature increases.

The principal reason for the warming trend is associated with a century and a half of industrialization: the burning of ever-greater quantities of oil, gasoline, and coal, the cutting of forests, and the practice of certain farming methods. These activities have increased the amount of "greenhouse gases" in the atmosphere, especially carbon dioxide, methane, and nitrous oxide. Such gases occur naturally - they are critical for life on earth, they keep some of the sun's warmth from reflecting back into space, and without them the world would be a cold and barren place. But in augmented and increasing quantities, they are pushing the global temperature to artificially high levels and altering the climate. Eleven of the last twelve years are the warmest on record, with 1998 being the warmest year.

This explains why more recently, a number of nations approved an addition to the treaty: the Kyoto Protocol, which has more powerful (and legally binding) measures. In particular, the Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European Union for reducing greenhouse gas (GHG) emissions. This amounts to an average of 5 percent against 1990 levels over the five-year period 2008-2012. The Kyoto Protocol was adopted in Kyoto, Japan, on 11 December 1997 and entered into force on 16 February 2005. The detailed rules for the implementation of the Protocol were adopted at COP 7 in Marrakesh in 2001, and are called the "Marrakesh Accords."

The Kyoto Protocol is generally seen as an important first step towards a truly global emission reduction regime that will stabilize GHG emissions, and provides the essential architecture for any future international agreement on climate change.

By the end of the first commitment period of the Kyoto Protocol in 2012, a new international framework has to be negotiated and ratified to deliver the stringent emission reductions that the Intergovernmental Panel on Climate Change (IPCC) has clearly indicated are needed.

The "Marrakesh Accords"

In November 2001, during COP 7 negotiations in Marrakesh, a decision was adopted on land use, land-use change and forestry (LULUCF) and related issues (refer to Decision 11/COP7). The rules for LULUCF activities, agreed as part of the Marrakesh Accords, include three main elements:

- a set of principles to govern LULUCF activities;
- definitions for Article 3.3 activities and agreed activities under Article 3.4; and
- a four-tier capping system limiting the use of LULUCF activities to meet emission targets.

The principles in the Marrakesh Accords respond to concerns that the use of LULUCF activities should not undermine the environmental integrity of the Kyoto Protocol. These principles underscore, for example, the need for sound science and consistent methodologies, as well as the importance of conserving biodiversity. They also specify that

naturally-occurring removals, including removals as a consequence of indirect anthropogenic effects, should be excluded from the system and that any re-release of greenhouse gases (e.g. through forest fires) must be promptly accounted for.

In order to ensure consistency and comparability among Parties, a common definition is established for the term "forest". Some flexibility is allowed to take account of national circumstances, so that a Party may choose, for example, to select a minimum tree height of between 2 to 5 meters for its definition of a forest. Once the values are chosen, however, they remain fixed.

The Marrakesh Accords also provided definitions for four additional LULUCF activities, these being:

- forest management;
- cropland management;
- grazing land management; and
- revegetation.

Parties may choose to include any of these activities to help meet their emission targets, and the choice is then fixed for the first commitment period.

Net removals of greenhouse gases from eligible LULUCF activities generate so-called *removal units* (RMUs) that Annex I Parties can use to help meet their emission targets. They are deemed valid only when the removals have been verified by expert review teams under the Protocol's reporting and review procedures, and they cannot be banked (i.e. credits cannot be carried over to future commitment periods). In the case where such LULUCF activities result in a net source of greenhouse gas emissions, there would be a cancellation of assigned amount units and/or units issued from Articles 6, 12 and 17 for the Party concerned.

Legal issues surrounding the use of forests as carbon sinks before REDD+

What approach might legislatures use to promote and regulate the use of forests as carbon sinks, reservoirs and sources of environmentally friendly products and renewable energy? The complexities of the UNFCCC and Kyoto Protocol and the nature of forest mitigation make it difficult to give a general answer to this question.

First, the UNFCCC and the subsequent Kyoto Protocol create different obligations for different Parties. Because developed nations have historically emitted the majority of GHGs believed to drive climate change, they bear the primary burden of reducing emissions or sequestering carbon under the UNFCCC. Some of the more extensive legal reforms will probably have to occur in these nations.

On the other hand, developing nations faced different sets of compliance questions, many arising out of projects undertaken in the framework of the Clean Development Mechanism (CDM), or in the context of reporting on forest carbon stock changes in national communications. Solving these questions may require a wide set of legal and institutional approaches. Some of the issues may be conventional matters of improving forest conservation protection and assessment. Some may involve new ways of looking at property ownership, land use, social and environmental impact, forest management and forest inventories.

Second, questions remain about the longer-term role of forestry as mitigation. COP-7 and COP-9 have gone a long way to answer some open questions, especially as they apply to the first commitment period of the Kyoto Protocol, 2008 to 2012. But technical issues and issues concerning the treatment of forests in subsequent commitment periods remain completely open.

Third, the legal issues concerning mitigation through forests will overlap with the legal issues concerning mitigation and compliance generally. For example, a Party may wish to set up a GHG emissions trading system that deals with all kinds of sinks and all kinds of sources, from farms to factories, not just forests. Countries will encounter some legal issues that are unique to forests and others that apply to a broad range of sources and sinks. Some legal issues may be seen as “forest law” matters while others may be considered issues of property law or laws governing investments and financial transactions.

Fourth, the direction of legislation will vary depending on the local legal system and institutions. A legal system that recognizes social property and community ownership will offer different options from one that does not. In a society where the fiscal institutions are weak or untested, it may be impractical to establish mitigation programs based on market trading. These kinds of problem are familiar to legislative drafters, but GHG mitigation may raise them in new contexts.

Fifth, the role of national legislation in compliance is still unclear. Do countries really need new laws? Only a few countries have made legislative changes in response to climate change concerns. Others have responded through policy changes and administrative acts under existing laws rather than through new legislation. As the international response continues, with experience gained and deadlines approaching, legislation may become more important¹.

REDD+ in the context of the UNFCCC Negotiations

More recently, taking into account the climate change targets under the UNFCCC, the IPCC 4th Assessment Report² identified deforestation and forest degradation as a significant source of greenhouse gas emissions. Concerns about the likely increases in atmospheric temperatures resulting from anthropogenic sources of greenhouse gas emissions have yielded a broad search for cost-effective remedies. In this regard, the British Government commissioned a report to examine the economics of climate change³ led by Sir Nicholas Stern, Head of the Government Economic Service and Adviser to the government on the economics of climate change and development. The report identified a number of low-cost, quick wins to reduce emissions including the potential to reduce emissions from deforestation and forest degradation. The report found that the uses to which converted forests were being put had a quite low economy value. Based on this, the report concluded that the opportunity cost to pay converters to keep standing forest would be a low-cost alternative to reducing emissions, buying time for a larger scale societal transformation to low carbon technologies for power and transport.

Inside and outside the United Nations Framework Convention on Climate Change (UNFCCC) negotiations, a series of efforts have begun to develop mechanisms for “Reducing Emissions from Deforestation and forest Degradation” (REDD+).

At the eleventh session of the Conference of the Parties to the UNFCCC held in Bali (COP11), Parties agreed to put their efforts together to combat climate change and

¹.FAO 2004a. Rosenbaum, Kenneth L., Schoene, Dieter and Mekouar, Ali. Climate change and the forest sector. Possible national and subnational legislation. Rome.

² (www.ipcc.ch/publications and data/publications_ip)

³ (www.treasury.gov.uk)

addressed the need to reach an international agreement for the post-2012 Kyoto Protocol regime. The main outcome of the meeting was the adoption of the Bali Road Map, thus launching a two-year negotiation process to be finalized in 2009 at the 15th Conference of the Parties (COP15) in Copenhagen.

The Bali Road Map contained the Bali Action Plan, which specifically calls for the implementation of the Convention (UNFCCC) through long-term cooperative actions beyond 2012 and urgently recognizes the need to reach an agreement at COP 15, thus recognizing the importance of REDD and the international finance system to reduce carbon emission achieve goals. In order to achieve this goal, it created the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) to lead the negotiations.

The Bali Action Plan is built upon four key elements: mitigation, adaptation, technology and financing. Relating to developing countries, the Bali Action Plan specifically focuses on adaptation and climate resilience-building activities, and stresses the need to support the most vulnerable countries. Both financial and technological support is foreseen.

The UNFCCC in Cancun (Mexico), held in December 2010, identified several areas where a balanced “package” of outcomes could be agreed. These issues included mitigation, adaptation, financing, technology, reducing emissions from deforestation and forest degradation in developing countries, including conservation, sustainable management of forests and enhancement of forest carbon sinks (REDD+), monitoring, reporting and verification (MRV) and international consultation and analysis (ICA).

REDD+ and forest carbon rights in Asia-Pacific

In light of the recent international developments above mentioned, climate change mitigation and adaptation policies will have to address forestland tenure issues in order to foresee, plan and distribute risks and benefits of their incentive schemes. However, any incentive scheme must first of all identify who should be entitled to rewards and held responsible for pursuing practices that reduce carbon emissions or enhance sequestration. Nevertheless, how and whether carbon rights linked to forests or resource rights should be explicitly defined is not yet clear for many contexts. Therefore, with the emergence of a broadly accepted framework that could underpin REDD+, an increasing need is required to develop a consistent approach to the concept of “carbon rights” in national REDD+ regimes in Asia-Pacific, to reduce uncertainty and complexity as well as costs and risks of participation. However, owning an intangible resource, such as actually or potentially sequestered carbon, poses some challenges to traditional property law systems. In this connection, the first question is to establish the nature of rights or interests in the carbon sequestered by forests.

One major consideration relates to whether the property law system in question treats land and natural resources, including ecosystem services, as fundamentally belonging to the state (i.e., public domain) or as wholly belonging to private land owners. A relevant regulatory issue relating to carbon ownership is whether concessions are granted for ecosystem services such as carbon. Another aspect that may affect the implementation of REDD+ activities, concerns the formal recognition of customary land tenure rights to land owners, in particular if we take into consideration legal frameworks in most Asian countries. From this perspective, an analysis is carried out to clarify how principles of benefit-sharing can be extended to ‘communities’ (rather than individuals in the traditional property right paradigm) that may have the rights over such carbon.

The case studies described in the paper aim to illustrate current trends in Asia-Pacific to define carbon rights in both common law and civil law systems, focusing on forest tenure rights and equitable benefit sharing approaches as key aspects to clarify ownership rights on carbon.

Forest carbon tenure and REDD+ in Asia-Pacific

I- Forest tenure in Asia-Pacific

Australia, China, India, Indonesia and Myanmar are the countries with the largest forested area in Asia and the Pacific, covering 74 percent of the forest in the region. China and Australia alone account for almost half of the forest area in the region.

The area of planted forests in the region has expanded due to large-scale afforestation efforts made by China. In China the forest area increased by 2 million hectares per year in the 1990s and by an average of 3 million hectares per year since 2000. Bhutan, India, the Philippines and Vietnam also registered an increase in the forest area in the last decade. Despite the net increase in forest area, deforestation continued at high rates in many countries. Cambodia, Indonesia, Myanmar and Papua New Guinea have all reported forest loss in the last decade.

Sixteen percent of the forest area in the region are planted forests (i.e. forests established through planting and/or deliberate seeding of native or introduced tree species), most of them were established through afforestation programs. China, India and Vietnam have developed targets for large-scale forest planting as well as incentive programs for smallholders to plant more trees⁴. Growing stock and carbon storage were also important parameters in developing trends in the extent of forest resources. In particular, carbon stocks in forest biomass decreased by an estimated 159 million tonnes annually during the period 2000–2010, despite an increase of the forest area in the region. The decreasing trend occurred because the forest converted to other uses contained more biomass and carbon than the newly established forests (FRA 2010).

Therefore, in order for REDD+ carbon emission mitigation targets to be reached, in the next future, the primary driver of forest clearing globally, agriculture, must be fundamentally addressed by governments implementing REDD+ Programs. So far, based on 20 current country readiness proposals (R-PPs) submitted to the World Bank Forest Carbon Partnership Facility (FCPF), the analysis reveals that overall, REDD+ strategies and actions generally fail to address agricultural drivers, while how countries should more adequately address agricultural drivers linked to deforestation and land degradation in their REDD+ strategies, including through ensuring security of tenure and land access rights and cross-sectoral policies⁵.

Unclear or insecure forest tenure in the Asia-Pacific region has also frequently been identified as an indirect driver of deforestation and forest degradation. Consequently, reforming tenure and clarifying tenure is also seen as a way of promoting equitable REDD+ implementation. Clear and secure tenure can also protect poor forest dwellers and local communities from exclusion or even eviction of benefits generated by forestland services, such as carbon sequestration activities, and provide them with greater leverage in national REDD+ processes. In addition, lack of clarity over rights to land will generate difficulties in identifying who owns rights on carbon generated by REDD+ project. In particular, as a unique feature of

⁴ Forest Resources Assessment. 2010. FAO-Rome. China plans a 50 million hectare increase in the area of its planted forests by 2020, with the aim of covering 23 percent of the total land area with forests, a target which may be reached by 2015 if current planting rates continue. India set a target to cover 33 percent of its land area with forests and tree cover by 2012.

⁵ Kissinger G. 2011. Linking forests and food production in the REDD+ context. CCAFS Working Paper no. 1. CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS). Copenhagen, Denmark.

REDD+ is that it may entail newly defined rights, such as the right to exploit the benefits of reduced carbon emissions and carbon storage.

i- Forest tenure in Southeast Asia

As demands for land and forest products and services increase, it is becoming ever more critical for forest managers to balance interests and to integrate or separate activities, *such as carbon sequestration*, according to local and national conditions. The long life cycles and non-material benefits of forests make tenure a particularly important issue. Although state ownership predominates, patterns are changing in the Southeast region with particular emphasis on state ownership of protected forests and private ownership of production forests⁶.

In particular, the optimum tenure and ownership for different forest types –plantations, protected areas, production forests, etc. – differ in accordance with the nature of the product/s and the markets that exist (Landell-Mills and Porras 2002). Natural forests have usually been considered state property but inefficient management, declining growing stock and forest value, and calls for greater social and economic justice are resulting in transfer of forest ownership to local levels, either as private or community property (FAO 2006b).

For governments, the private sector and individuals alike, clear allocation of rights and responsibilities reduces investment risk. With increasing scarcity of land and resources, formalization of rights and responsibilities has become increasingly necessary. Where tenure has remained unclear, unstable or non-exclusive, suboptimal management has resulted (FAO 2006b).

Revisions of ownership and tenure can transfigure forest management, as is happening in China and Viet Nam (Zheng 2006; Nguyen 2006). Additionally, allocation of land can have considerable effects on economic efficiency and equity. Land reforms in the late 1940s and early 1950s in Taiwan and Korea, for example, are thought to have been instrumental in reducing income inequality and stimulating economic growth in comparison with later experiences in Southeast Asia (Jomo 2006).

Natural forests in Southeast Asia are predominantly state-owned or administered and almost all protective plantations are state-owned (Katsigiris et al. 2004; FAO 2006b). In several countries in the sub-region, forest and forest land allocation processes have been progressing over the past decade as economic frontiers have advanced and societal demands have changed (Edmunds and Wollenberg 2003; FAO 2006b). The area of forests where secure tenure rights for local stakeholders have been devolved remains extremely small and unclear forest tenure constrains SFM in many countries in the sub-region (FAO 2006b). Only in Viet Nam has rights over significant areas of forest been devolved to individuals and families, communities, the private sector and other economic entities.

In 1990, only 2 percent of forest land was privately-owned in Southeast Asia, and in Cambodia, Lao PDR and Myanmar, there was no privately owned forest land at all. By 2005, almost 6 percent was privately-owned with the most substantial increase in Viet Nam where private ownership increased steeply to 24 percent – largely as a result of forest land allocation programs. In **Thailand**, large areas of rubber, pulp and sawlog plantation are also privately-owned but no natural forest. Similarly, in **Malaysia**, rubber plantations constitute the bulk of privately-owned forests and, mainly as a result of conversion of rubber plantations to oil palm, private forest ownership dropped between 1990 and 2000.

In **the Philippines**, changes in ownership have resulted primarily from establishment of productive forest plantations with accompanying increases in corporate and smallholder

⁶ FAO 2010a. Asia-Pacific Forestry Commission. Southeast Asian forests and forestry to 2020. Subregional report of the second Asia-Pacific forestry sector outlook study. FAO-Bangkok.

ownership (FAO 2006b). Incomplete delegation of rights and responsibility due to an emphasis on forest protection has been largely to blame for forest degradation and co-management has been suggested as a possible solution.

In **VietNam**, significant areas of forest and forest land have been allocated to households, individuals, communities and the private sector (FAO 2005a). Public ownership of productive plantations fell from 48 percent in 1990 to 27 percent in 2005, while smallholder ownership rose from 46 to 64 percent (FAO 2006b).

The contribution to SFM and livelihoods has generally been positive. Like the Philippines, however, benefits to local groups have often been insufficient. Regulatory constraints favoring forest protection, low forest quality/value, inequitable benefit-sharing arrangements and poor local awareness of rights have been variously implicated.

In **Indonesia**, where since the 1960s, forests have been owned by the state and were progressively degraded through timber exploitation and pulp and paper production in the 1970s and 1980s, followed by oil-palm plantation establishment beginning in the 1990s. Throughout, there has been little recognition of local-level rights and while the regime change in 1998 and subsequent decentralization was expected to provide benefits to forestry and rural communities, the situation has worsened. The lack of a workable model of local-level forest management and associated lack of livelihood benefits, combined with continuing forest degradation and the financial attractiveness of palm oil production, provide a lean basis for forest management. Even at the local level, oil-palm plantation establishment is favored as it provides local communities with more income more quickly than other options. Conflicts between timber and plantation companies have been intense, but the issue has become land-rather than forest-related (Simorangkir and Sardjono 2006). Regulation and compensation may therefore be required to maintain forests and efforts are necessary to prevent further forest degradation by clarifying tenure, improving law enforcement and providing support for communities.

In **Lao PDR** and **Cambodia**, all forest is state-owned and the issuance of land concessions became an important issue for forestry in 2007 and 2008 following huge increases in commodity demand from China. The situation in Lao PDR led to granting of concessions being suspended and in Cambodia claims of widespread sale of land to foreign investors were made (Global Witness 2009). In both countries, mechanisms to introduce greater involvement of local people in forest management are warranted as a means of maintaining forest resources, reducing poverty and increasing rural income⁷.

ii- Forest tenure in the Pacific

Forest ownership regimes in the Pacific have developed in a variety of directions, based around the influences of traditional and colonial systems of tenure that will have an impact in determining carbon ownership rights.

Forest ownership in Australia and New Zealand largely reflects ownership systems developed during their British colonial eras.

In **New Zealand**, the vast majority of natural forest (around 80 percent) is under government ownership and is located within protected areas administered by the Department of Conservation. The remaining natural forests are under private ownership, with only a very small proportion of the total natural forest area assessed as still potentially available for harvesting. Conversely, the vast majority of plantation forests are under private ownership and almost all are production forests. Around 4 percent of plantation forests are owned by the central government with an additional 3 percent owned by local government bodies. The remaining 93 percent of forests are under private ownership, including some Maori

⁷ FAO 2010a. Asia-Pacific Forestry Commission. Extract from the Subregional report of the second Asia-Pacific forestry sector outlook study. FAO-Bangkok.

(indigenous groups) incorporations. Since 2003, the advent of Timber Industry Management Organizations (TIMOs) as substantial plantation forest owners in New Zealand has been a notable feature. TIMOs presently own approximately 40 percent of New Zealand's plantation forests (Clarke 2010).

Native (natural) forest ownership in **Australia** is classified in six tenure classes, while plantations constitute a separate class. While 74 percent of Australia's forest land is government-owned, the large area of leasehold forest (around 44 percent) means approximately 62 percent of forests is under private sector management, including approximately 21 million hectares of forests (14 percent) under management by indigenous groups.

Private ownership of plantations in Australia has increased markedly in the past 15 years; from about 30 percent in 1994 to 59 percent in 2006. During this period, two state governments have sold extensive tracts of plantations (one sold all its plantations and the other sold a 50 percent interest). At the same time, significant private sector investment in plantations has also occurred. Mirroring the trend in New Zealand towards greater involvement of TIMOs, 38 percent of Australian plantations are presently owned by managed investment schemes and superannuation funds.

Forest ownership in **Melanesian countries** is largely based around customary ownership by traditional tribal and clan entities.

In **Fiji**, 95 percent of forests is under private ownership, with 85 percent of forest under customary (mataqali) ownership, along with 9 percent of forests on alienated freehold land. The remaining 5 percent of forests is on government-owned land. Almost 90 percent of the unexploited production forests is under mataqali ownership. Fijian mataqali do not have any corporate authority to conduct land transactions – the land is managed by the Native Lands Trust Board and remains forever the property of the landowning unit and cannot be sold, except to the state for public purposes. All negotiations for the use of timber grown on mataqali lands must be conducted through the Native Lands Trust Board.

Almost 97 percent of forests in **Papua New Guinea** are under customary ownership, with very small areas under government ownership. However, under regulations not dissimilar to those applying in Fiji, any harvesting on customary land requires that the rights to the land must first be willingly transferred to the state under a 50-year Forest Management Agreement. The state then negotiates with interested parties to lease the concession. Increasingly, landowners are exerting pressure on the government to acquire these rights to timber areas and place them on tender to attract developers.

Landowners regularly initiate proceedings by seeking out potential developers and then approach the government to formalize arrangements. This often causes conflicts among landowners, as well as with processes that are expected to impartially select developers of timber concessions (PNGFA 2009).

All land in **Vanuatu** belongs to indigenous customary owners and rules of custom are the basis for the ownership and use of land – though a variety of traditional tenure systems are in place. These rights are enshrined in Vanuatu's constitution. Consequently, ownership of almost all forests lies with indigenous landowners, though some logged over areas have been leased for plantation establishment.

In conclusion, throughout much of the Pacific - especially the island countries - family, clan and community ownership of lands and forests predominates. As landowners increasingly demand higher standards of living, including improved education, health care and other services, forests are increasingly viewed as a vehicle for funding development. Papua New Guinea provides one example, though a similar trend is apparent in Fiji, the Solomon Islands, Vanuatu and, increasingly, for indigenous groups in New Zealand and Australia. In fact, as

part of this drive for development, many indigenous groups are mobilizing to reclaim forests and lands that have been unlawfully or inequitably taken from them (especially in Australia and New Zealand) or mobilizing to gain greater control and autonomy (from government agencies and concession holders) over lands to which they retain ownership. At the same time, as the financial value of forests has become evident, some old ownership disputes among indigenous groups have flared. On smaller islands, scarcity of land and forest areas has become an issue as populations have burgeoned; for example, on South Tarawa in Kiribati⁸. However, some studies concerning the rights of indigenous peoples and forestry projects have emphasized that the exclusive usufruct enjoyed by indigenous peoples can be equated to a *de facto* ownership of the land and resources. Hence, indigenous peoples would be the *de facto* owners of the forest, including any rights that may be derived from carbon sequestered⁹.

II- Definitions of carbon rights: the latest developments in Asia-Pacific

As REDD+ or other forest-based carbon funding mechanisms hold prospects for vital funding of forest conservation and development, the need to define carbon rights has become a priority for developing countries hosting REDD+ programs.

Carbon rights have been defined by experts, as a form of property that 'commoditize' carbon and allow it to be traded in voluntary and regulatory markets (Lisa Ogle, Environmental legal expert)¹⁰. Carbon rights are also considered as intangible rights created by people carrying out certain activities under relevant laws or contracts. Therefore, carbon rights could rather be compared to intellectual property rights that are intimately associated with an activity (Charlotte Streck, Director of Climate Focus). As such, it can be reasonably asserted by analogy that forest carbon or carbon in trees is owned by the person who owns forestlands, encompassing the category of usufruct rights and forest user rights. In referring to forest carbon rights, laws and contracts may also distinguish between sequestered carbon, carbon sink, carbon sequestration potential, carbon stock or carbon credits.

Carbon rights have also been defined as "a new and unprecedented type of property right"¹¹. Regardless of whether it is a new property right, reducing carbon emissions from forest covered by REDD+, will invariably result in some restriction on the rights of land and forest owners to maximize benefits from their property. REDD+ will have an impact on owners of land and trees depending on whether or not if they are deemed to own the carbon in their trees. The non recognition of local carbon ownership will however likely minimize local incentives for REDD+ to succeed¹².

A comparative analysis of legal frameworks integrating specific provisions related to forest carbon demonstrates the latest developments on this front.

In **Australia**, the Conveyancing Act NSW 1919 - 87A defines the forest carbon rights as follows:

⁸ FAO Asia-Pacific Forestry Commission. 2011. Extract from the Pacific Subregional report. Asia-Pacific Forestry Sector outlook Study II. FAO-Bangkok.

⁹ Chiagas. T. Forest carbon rights in Brazil. 2010. REDD-net.

¹⁰ New Zealand has implemented an Emissions Trading Scheme (ETS) that encompasses forestry, while Australia is presently considering a similar scheme.

¹¹ Streck. C. 2008. *Climate Change and Forests: Emerging policy and market opportunities*. Washington, DC: Brookings Institution.

¹² LaViña. A. Lynch. O.J. 2010. REDD Lights: who owns the carbon in forests and trees? Carbon ownership as the basis of social accountability: The case of Philippines.

- Carbon sequestration by a tree or forest means the process by which a tree or forest absorbs carbon dioxide from the atmosphere.
- Carbon sequestration right, in relation to land, means a right conferred on a person by agreement or otherwise to the legal, commercial or other benefit (whether present or future) of carbon sequestration by any existing or future tree or forest on the land after 1990.
- Forestry covenant, in relation to land, means a covenant that is incidental to a forestry right and includes any such covenant that imposes obligations requiring: (d) the provision of access to or the maintenance of trees or forests on land that is the subject of any carbon sequestration right, or (e) the ownership of any tree or trees on land that is the subject of a forestry right to be vested in the person who owns the forestry right, or imposes any term or condition with respect to the performance of or failure to perform any such obligation.

On the other side, 88AB of the Conveyancing Act NSW 1919 states that forestry rights shall be deemed for the purpose of *profits à prendre*, specifying that:

- (2) If a forestry right consists in whole or in part of a carbon sequestration right, the *profit à prendre* deemed to exist by subsection (1) in relation to the carbon sequestration right consists of the following:
- (a) The profit from the land is taken to be the legal, commercial or other benefit (whether present or future) of carbon sequestration by any existing or future tree or forest on the land that is the subject of the carbon sequestration right,
 - (b) The right to take something from the land is taken to be the right to the benefit conferred by the carbon sequestration right.

In **New Zealand**, the Forests (Permanent Forest Sink) Regulations 2007, regulates the application and enter into forest sink covenants. It includes carbon stock in relation to a forest sink, defined as the total carbon stored in a forest sink. The Minister of Agriculture and Forestry may enter into a forest sink covenant with a landowner who has made an application if certain conditions established by the Act are met. Additionally, the Forestry Rights Registration Act 1983 n. 42 (as at Sept. 2006) regulates the forestry rights that may be created by the proprietor of the land, including as a form of *profits à prendre* or forestry covenants.

Regarding **Vanuatu's** legislation, the Forestry Rights Registration and Timber Harvest Guarantee Act 2000 (s6) allows that a carbon sequestration right could be considered a profit à prendre or a legal right to enter and take from the land.

In general terms, the category of usufruct rights, comprising the range of legal rights and agreements allowing the use of property that belongs to another, is largely used under the common law system to regulate carbon rights.

i - Are carbon rights a separate land interest?

As mentioned above, the need to conceive carbon sequestration rights raises the question of whether such rights constitute a new property separated from the land or those rights run with the land.

Concerning the ownership of forest carbon, the Australian Forest Property (carbon rights) Amendment Act 2006 (SA) states that: "The capacity of forest vegetation to absorb carbon from the atmosphere is a form of property (a carbon right) (3A-1). A carbon right attaches to the forest vegetation to which it relates, and ownership of the right passes with the ownership of the forest vegetation unless ownership of the right is separated from the ownership of the forest vegetation under a forest property agreement (2). A forest property agreement may relate to carbon rights in respect of the past absorption of carbon from the atmosphere as well

as to those in respect of the absorption of carbon from the atmosphere during the currency of the agreement (3). A forest property (carbon rights) is considered as “an agreement that separates ownership of carbon rights from ownership of the vegetation to which the carbon rights relate by transferring ownership of the carbon rights from the owner of the vegetation (the transferor) to another (the transferee)”(4).

The legislative scheme in **Australia** is one of the first to specifically formalize the separate proprietary existence of carbon rights within the context of forestry legislation. The Forestry Rights Act 1996 (Victoria) allows the ownership of trees to be separated from the land, by means of a Forest Property Agreement. The Forest Property Agreement between a land owner and a tree owner is notified on the title to the land. This gives security to the tree owner by protecting the rights to the trees even if the land changes ownership.

An amendment in May 2001 to the Forestry Rights Act 1996, recognizes carbon sequestration rights and enables ownership of these rights separately from the trees and the land. Carbon rights allow investors, who do not want to own or manage trees, to buy and sell carbon as a third party, without affecting the ownership of the trees or the land. In the event of the forest property or land being sold, the rights of the carbon investor can be protected by the inclusion of suitable clauses in the Carbon Rights Agreement¹³. Also in this direction, the Forestry Rights Registration Act 1990 (Tasmania) and the Forestry Act 1959 (Queensland). However, the Australian Property Institute New South Wales & Queensland Divisions is in the opinion that “Even if in some Australian states there has been partial crystallization of legal rights in carbon distinguishable from the elemental land property right, these rights in carbon remain part of the land based property right” (API NSW – Conceiving property rights in carbon – 2007). In relation to this debate, the President of the Australia Property Institute NSW - Division, in his response to the current Legislative Council Inquiry into NSW Planning framework mentioned that: “The foreshadowed introduction in 2009 of a Carbon Pollution Reduction Scheme (CPRS) suggests that climate change and natural resources issues in planning and development controls will be critical. Much carbon sequestered in Australia will be the land, primarily in plantations, and soil. There has never been in Australia's history a free standing property right in carbon separate from the land, and it is uncertain how foreshadowed CPRS will deal with the new land based right”¹⁴.

Vanuatu's legislation, particularly the Forestry Rights Registration and Timber Harvest Guarantee Act (FRRTHG Act 2000), links a “forestry right” in relation to land to include “a carbon sequestration right in respect of the land”. Particularly, a “carbon sequestration right” is defined as follows: “In relation to land, means a right conferred by agreement or otherwise to the legal, commercial or other benefit (whether present or future) of carbon sequestration by any existing or future tree or forest on the land”. These rights vest with the customary owners of the land, and with individuals that hold leases over land. The FRRTHG provides for forestry rights to be granted through its registration under the Land Leases Act [CAP 163]. Once granted the forestry right must be registered then with the Land Records Department. If the rights are transferred by a lease, they revert to the original land owners once the lease expires.

ii- When may carbon rights become a separate land interest?

In **Australia**, once the carbon rights form is registered, the carbon right becomes a separate interest in the land. The owner of the carbon right acquires the legal and commercial benefits and risks arising from carbon sequestration over the specific land. Registration in this context

¹³ Ministry of Environment and Conservation (Victoria) Australia. 2001. Forestry rights and carbon sequestration rights. In May 2001, the Bracks' Labour Government enacted carbon property rights legislation to encourage investment in planting new forests as carbon 'sinks'. This legislation provides added incentive for further investment in new commercial timber plantings and will further boost Victoria's plantation estate. The legislation also supports investment in environmental plantings for many other benefits including habitat expansion, salinity mitigation and land protection.

¹⁴ www.parliament.nsw.gov.au for more information about the inquiry.

functions as a formal prerequisite to the recognition of the carbon right as a statutory encumbrance (Carbon Rights Act 2003 WA). Compulsory registration for the purposes of proprietary validation is also extended to carbon covenants. Once registered, the carbon covenant becomes a valid land encumbrance because it is treated as a constituent of the underlying carbon sequestration right (Carbon Rights Act 2003 WA).

Questions may arise concerning responsibilities and liabilities due to the intangible nature of carbon property rights. For example, if the owner of the land sells the subsidiary right in carbon sequestration in trees, how does the owner take the responsibility to ensure that the activities will not impact on the loss or diminishment of that carbon right? In the case of Victoria State, the Forestry Rights Act 1996 states that Parties to a private forestry agreement and/or carbon agreement should take legal advice on how their respective rights and obligations should be defined in order to protect their interests properly. The minimum requirements are set out in the Act. Anyone entering into a carbon agreement needs to ensure those rights are currently held by the tree owners and have not been sold already. A forest property agreement must exist in order to have a carbon rights agreement¹⁵.

iii- Legal options to define carbon rights

Most of national legislation referring to usufruct rights distinguishes between the different types (easements, lease, *profits à prendre* and covenants). Particularly, **easements** are rights enjoyed by one landowner over the land of another. A positive easement (such as a right of way) involves a landowner going onto or making use of something in or on a neighbors' land. A negative easement is essentially a right to receive something (such as light or support) from the land of another without obstruction or interference. It may include to the bundle of rights allowing an entity to explore and exploit the potential that natural sources have to store carbon. A party may also **lease** a parcel of land for some purpose e.g. concession agreements granted by government or private landowners for logging. While ***profits à prendre*** give the holder the right to remove products of natural growth from another's land. Other right ordinarily supporting the right of taking include rights of surface entry and any associated rights necessary for the extraction of the produce. Finally, **covenants** defined as promises usually contained in a deed made in relation to land, might be used to regulate the ownership of forest potential sequestered carbon. Covenants may be positive or restrictive, and, where restrictive, can have some characteristics which are normally associated with property rights¹⁶. In this perspective, the cited Conveyancing Act 1919 (Australia) states that carbon sequestration rights in forests are legislated to be *profits à prendre*, and hence a property right, also linking the carbon sequestration right with the notion of a forestry covenant (see definition s. 87A).

Summary of key points

Carbon rights may vary in scope depending on the definitions adopted and the type of carbon to which they refer:

- There is a need to define carbon rights to secure ownership rights on forest carbon related to individuals or groups involved in activities of carbon sequestration.
- Careful distinction is needed between rights to carbon or benefits that flow from carbon versus the rights to the carbon credit itself (or the title to the carbon emission reductions)¹⁷.
- Definitions of carbon rights may differ between states in relation to their association with the land (individual vs communal/ private vs public).

¹⁵ Ministry for Environment and Conservation. 2001. Forests rights and carbon sequestration rights (Victoria) Australia.

¹⁶ Source: www.lawcom.gov.uk.

¹⁷ REDD-net. 2010. Carbon rights in REDD+: towards a common understanding. REDD-net.

Clear property ownership and use rights are required over the different types of carbon:

- There are different options that could be considered at national level to facilitate carbon transactions, and thus the need or not to separate property rights on carbon from other ownership rights (interests) on forestlands (e.g. usufruct rights).
- Forest carbon rights may be granted through the registration in land administration systems. Registries and certificates should take into account the rules on the control over transferability, inheritance, extinction, subdivisions of carbon property rights.

III- Institutional responsibilities impacting carbon ownership schemes

Australia, New Zealand and **Vanuatu** have clearly integrated and defined carbon rights in their legal frameworks, thus highlighting the latest developments in this front. In the previous section, reflections surrounding the need to separate carbon rights from other interests in land and to secure ownership rights on carbon through the registration process have also demonstrated the main aspects that still must be clarified by legislators.

Conversely, countries in Asia-Pacific like **Cambodia, The Philippines, Vietnam, Indonesia** and **Nepal** have not yet elaborated specific definitions related to carbon rights. It explains the main concern to identify first what are the institutional responsibilities and instruments endorsed by those countries with respect to forest carbon. An in-depth analysis of the forest tenure legislation follows in the next section, focusing on the implications related to ownership rights in carbon.

i- A country-case approach

Cambodia is one of the first countries in the Greater Mekong region to address REDD+ with pilot activities starting in 2008. All forest resources in Cambodia fall under the general jurisdiction of the Ministry of Agriculture, Forestry and Fisheries (MAFF), although current legislation places direct regulatory and management authority over forest resources that exist within properly designated protected areas under the jurisdiction of the Ministry of Environment (MoE). Most flooded forest resources fall under the management of the Fisheries Administration¹⁸. Under 2008 Sub-Decree 18849 (amending the 2000 Sub-Decree 17 on the Organization and Function of MAFF), the Forestry Administration, as the government authority under the Ministry of Agriculture, Forestry and Fisheries (MAFF), has the following general responsibilities in relation to forest carbon:

- To conduct assessments to determine the quantity of national forest carbon stocks; and
- To develop and arrange for forest carbon trades and forest services to increase revenue for effective forest operations and development (art. 4 of 2008 Sub-Decree #188).

The Forestry Administration therefore currently has the authorization to develop forest carbon sales. However based on the law, this applies only to the Permanent Forest Estate that lies under the jurisdiction of the FA, i.e not protected areas or wetlands. The Ministry of Economy

¹⁸ Forestry Law (2003), Land Law (2001), Protected Area Law (Royal Decree 1993, Protected Area Law of 2008), Fisheries Law (2006).

and Finance (MEF) acts as the executive agency of the government in managing state properties (including forest carbon) in terms of selling, leasing, transferring, and other arrangements, and granting of various state concessions or contracts on management of state property. MEF is also responsible for maintaining an inventory of state properties, management of state revenue and the national budget. On the other hand, private forest owners, either individuals or recognized indigenous communities with communal title, have also the right to sell their own forest carbon.

The Philippines has around 20 percent of forest cover and an additional 20 percent of woodland cover¹⁹.

The Philippine forests were logged extensively throughout the 1960s, 1970s and 1980s, followed by clearing for agriculture, resulting in major deforestation and degradation. Ownership of Philippine forests is largely vested in the state²⁰. At the institutional level, the Executive Order 192 of 1987, consolidated several environmental government agencies under a single department, the Department of Environment and Natural Resources (DENR). The Forest Management Bureau (FMB), the Ecosystems Research and Development Bureau (ERDB) and the Protected Areas and Wildlife Bureau (PAWB) are the DENR bureaus with direct forestry-related functions. The Forest Management Bureau (FMB) is under the Natural Resources Office, headed by an under-secretary, and while the ERDB and the PAWB are placed under the Environment and Research Office headed by a second under-secretary. The re-organization of the DENR, which transformed forestry agencies into staff bureaus and placed them under the supervision and control of the DENR secretary, facilitated the complementation and harmonization of previously conflicting directions. In fact, the cycles of structuring the DENR — especially since 1987 — aided in achieving significant improvements related to forests and forest resources; notably in promoting equitable access to forest resources which might in turn be considered to facilitate access rights on carbon.

More recently, despite the enactment of the 2009 Climate Change Act²¹ and the creation of the Climate Change Commission, there is still no specific legal framework on carbon rights. Representatives from government and citizen organizations have also drafted the Philippine National REDD+ Strategy (PNRPS) not covering the area of carbon ownership²².

In **VietNam**, according to the Ministry of Agriculture and Rural Development (MARD), forests cover about 12 931 000 hectares of land, equivalent of 39.7 percent of the total area allocated to protection forests, production forests and special use forests (forest reserves). Logging and slash-and-burn agricultural practices contribute to deforestation and soil degradation while urban industrialization and population migration are rapidly degrading environment in Hanoi and Ho Chi Minh City (FRA 2010)²³.

To address the needs of forest protection and biodiversity conservation, the government has also established policies, strategies and programs on forest development and protection, including the national forest development strategy and the five million hectare reforestation program (so-called the Program 661) among others. The national forest development strategy

¹⁹ The country has slightly less than 4 million hectares of dipterocarp rainforest, with slightly less than 1 million hectares of "old growth" dipterocarp forest. The Philippines has small areas of highland pine forests and coastal mangroves, and extensive areas of brushland. The Philippines also has a moderate area under plantation forest.

²⁰ www.thewoodexplorer.com/countrydata/Philippines/home.html.

²¹ Republic Act No. 9729 (2009).

²² The Philippine National REDD-plus Strategy, p. v (2010). Uncertain and contested land tenure is identified in the strategy as a major driver of deforestation, p. 19.

²³ 0.7 percent of forest cover, equivalent to 85 000 hectares is classified as primary forest. Between 1990 and 2000, Vietnam gained an average of 236 200 hectares of forest per year. In total, between 1990 and 2005, Vietnam gained 38.1 percent of its forest cover, or around 3 568 000 hectares, losing 299 000 hectares of its primary forest cover. Deforestation rates of primary forest have decreased 77.9 percent since the 1990s (FRA 2010).

(2006-2020) defines the national strategy for the country's forests, targeting an area of 43 percent of forest covered lands by 2015.

In particular, early in 2007, the Ministry of Agriculture and Rural Development (MARD) established five Coordination Sub-committees, one for each program of the Strategy, to plan and mobilize support for the implementation of the respective programs. MARD as the overall responsible entity for the forest sector, has been designated the focal point for REDD+ activities. The Department of Forestry (DoF) takes the lead of the overall management and development of forests within the Ministry, whilst the Forest Protection Department (FPD) is responsible to enforce the law on forest protection and development (2004).

Within the strategy, a number of operational programs were started in 2007 and one of them was the Sustainable Forest Management Program (so-called Component 1). Forest Land Allocation (FLA) is further complicated due to overlapping mandates between MARD and MoNRE. According to the Law on forest protection and development, MARD has the official mandate for the management of the existing forest vegetation while the responsibilities for the land resource management remain with MoNRE (according to the land law of 2003). Furthermore, different mapping criteria and classification systems further complicate forest allocation procedures in the field, thus impeding a clear allocation of carbon rights²⁴.

In **Indonesia**, 127 740 million hectares are covered by forests, representing the world's third largest area of tropical forests. It is also the world's fourth most populous country with a total population of 240 million people, extremely diverse in culture, language, ethnicity and religion. About 500 distinct languages and ethnic groups are settled in the archipelago (FRA 2010). Indonesia is also the world's third greatest emitter of greenhouse gases, due to forest clearance and peatland drainage. REDD+ Indonesia represents a unique opportunity to generate revenues, reduce the forest loss, thus contributing significantly in reducing global carbon emissions (Barr *et al.*, 2010; Boccucci *et al.*, 2008).

Supported by several bilateral donors and UN agencies, Indonesia took the challenge to enhance its preparedness by developing policies and strategies to implement REDD+ at the national level (Murdiyarto, 2009). Early efforts have contributed to the establishment of regulatory frameworks and national institutions, including the National Council for Climate Change (NCCC) under the President's Office and the REDD+ committee under the Ministry of Forestry²⁵. Today, the main constraint for Indonesia's development outcomes is not a lack of financial resources but the need for its institutions to translate the available resources into better development outcomes. Indonesia faces a challenge in that a large number of government agencies are fragmented and have overlapping authorities, hampering efficient decision-making. The implementation of the institutional framework governing the division of roles responsibilities and resources between the national and local governments remains incomplete.

However, in its fight against graft and corruption, the government has strengthened a number of anti-corruption institutions. Indonesia has made major advances over the past five years in establishing a sound legal and administrative framework for the modernization of public financial management in line with good international practice. Indonesia's institutional reforms have also made advances in several important aspects of governance²⁶ that may contribute to empower local communities involved in conservation and carbon storage, to exercise joint control over such carbon.

²⁴ Revised standard joint programme document. UN-REDD - Viet Nam Programme. 2009.

²⁵ Murdiyarto, 2009; Landell-Mills & Porras, 2002.

²⁶ Von Amsberg. J. Sack. A. Ahuja. P. Fengler. W. Shrader. Magdi Amin. H. 2006. Country partnership strategy for Indonesia 2009-2010. Investing in Indonesia's Institutions for inclusive and sustainable development. Siteresources. The World Bank.

Nepal has undertaken substantial changes in forest management approaches since the beginning of the twentieth century – from strict protection to a more participatory regime (Khatri 2008). Forestry sector development in Nepal is guided by the 1989 Master Plan for the Forestry Sector and successive national five-year plans (MFSC 2009). The Master Plan's objectives are to meet basic forest product needs and to protect, conserve and derive economic benefits from forest resources, where carbon revenues could be included. Provision for forest users' committees is also made. Among the programs designed to support policy implementation, the community and private forestry program has been central (MFSC 2009).

The Forest Act of 1993 and Forest Regulations of 1995 were enacted to facilitate the implementation of the Master Plan. Besides, the Revised Forestry Sector Policy 2000 acknowledged environmental and agricultural policies related to forestry and provided continuance for the Master Plan, but with explicit options for management of degraded and open forest of the Terai, Inner Terai and Siwalik regions. By March 2009, 1.25 million hectares of Nepal's forest area (more than 25 percent) had been handed over to 14 439 forest user groups (FUGs) that represent more than 1.6 million households (Bharat K. Pokharel, personal communication). The Leasehold Forestry Policy of 2002 made provision for handing over national forests to the private sector. Five-year plans since 1980 have focused on a balance of production, halting forest degradation and expanding social benefits with a strong emphasis on devolution to the local level and the private sector. The recent Interim Constitution of Nepal 2007 also includes provisions for communities' involvement in forestry activities²⁷. Those provisions could provide the basis for forest user groups to own carbon rights. However, specific mechanisms and criteria should clearly be established to define the role of the Ministry of Forests and Soil Conservation, in distributing carbon revenues among forest user groups.

ii- Recommendations

The role of the ministries of forests, agriculture, land, environment, finance and economics should clearly be articulated to distribute carbon ownership rights at national and sub-national level through appropriate incentive mechanisms. Particularly as the beneficiaries can be divided between state (ministries) and non state entities (privates, communities), owners of the land (state, privates) and simple user rights (rural communities), highlighting the need to establish by law adequate criteria to allocate carbon ownership rights on forestlands.

Decentralization and devolution of state power inherent in most participatory forest management approaches (PFM), may include a range of decentralized scenarios on structuring benefits, including carbon revenues, to be devolved to local governance levels, from provincial or district level authorities, groups of forest use stakeholders, and traditional authorities²⁸. Delivering better development outcomes at the institutional level will depend largely on improving government effectiveness through strengthening accountability and capacity at all levels. In particular, the creation of climate change entities e.g. in Indonesia, Philippines or Cambodia²⁹, may have a catalytic role in harmonizing the competences of ministries in relation to carbon revenues distribution mechanisms, strengthening decentralization and local participation.

Those measures should contrast with the risk of recentralization, if governments treat carbon as a public good. The possibility of increased forest land values will increase the risk of large land acquisitions at the expense of forest-dependent poor- particularly where customary tenure rights are not reflected in law. And while the sharing of carbon-related benefits remains

²⁷ FAO. 2010c. Yasmis, Y., Broadhead, J., Enters, T. and Genge, C. Forest policies, legislation and institutions in Asia and the Pacific. Trends and emerging needs for 2020. Asia-Pacific Forestry Sector Outlook Study II. FAO-Bangkok.

²⁸ Mahanty, S. and Guernier, J. 2008. A Fair Share: Sharing the benefits and costs of community-based forest management. Paper for IASC. Understanding the Benefits of the Commons.

²⁹ Sub-Decree No. 35 on creation of a National Committee for Managing Climate Change (2006).

unclear, there is a risk of increased inequity, with community receiving less than a fair share. These risks highlight the need to endorse a set of safeguards at the institutional level, to ensure that the interests of indigenous peoples and local communities are met³⁰.

Additionally, forestland classification systems created by different institutions, should be coherent to facilitate forest allocation procedures in the field, thus guarantying a clear allocation of carbon rights between the parties. Those procedures could provide the basis for forest user groups to own carbon rights.

Summary of key points

Institutional competences among different ministries should be clearly articulated to guarantee an equitable distribution of carbon ownership rights at national and sub-national:

- Responsibilities of ministries involved in carbon distribution mechanisms need to be harmonized, and aligned with decentralization and local participation schemes.
- Institutional safeguards should ensure that the interests of indigenous peoples and local communities are met in defining carbon rights.
- Decentralization and devolution of state power may include decentralized scenarios on structuring benefits derived from carbon revenues among different stakeholders.
- Forestland classification systems should guarantee a clear allocation of forest carbon rights to be associated with forestland user rights in the field.

IV- Existing laws and regulations linked to carbon rights

Given the complexities of land and forest tenure in many countries, the way in which carbon rights are interpreted has important implications for the different stakeholders involved in REDD+. At this stage, most of the countries have not yet incorporated carbon ownership rights into their legal framework. An overview of forest and land legislation in selected countries provides the basis to determine how carbon rights can be integrated into the existing legal framework, taking into account equitable benefit sharing mechanisms.

i- Carbon rights and forest rights

Usually, the owner of the forestland will presumably have the right to manage that land to maximize its carbon sequestration potential³¹. Carbon rights will likely be linked to forest rights. This is particularly true for Asia-Pacific countries; many forest-dependent communities reject the notion that carbon can be divided and sold separately from other elements, products and services of a forest, particularly where the forest is integral to livelihoods, subsistence and cultural identity. Ownership, or substantive use rights of forests, should be the first step for determining the entity most likely to have rights to carbon sequestered by forests. In this regard, the registration of a carbon right over a block of land will clarify the ownership of the rights to the benefits and liabilities that arise from changes to the

³⁰ Suzuki. R. 2011. REDD-Net Bulletin for Asia-Pacific. Carbon rights and REDD+. 2011.

³¹ A.LaViña.O.J.Lynch. REDD Lights: who owns the carbon in forests and trees? Carbon ownership as the basis of social accountability: The case of Philippines. 2010.

atmosphere that are caused by carbon sequestration and carbon release on that block of land (Government of Australia – carbon rights in Western Australia: A new interest in land). Each country will need to establish its own legislation on carbon rights which will depend in large part on existing legal frameworks for natural resources and property³². However, in the context of developing countries and forest-dependent local communities, carbon rights will also need to be linked to customary rights, as such being interpreted through a human rights approach³³. So far, to address the needs of forest protection and biodiversity conservation, national parliaments adopted relevant pieces of legislation on land and forests, which will have a direct influence in defining carbon rights.

Cambodia

The Forestry Law (2002)

The Forestry Law (2002) defines the Permanent Forest Estate in Cambodia as being comprised by private forests and the permanent forest reserve. Private forests areas, are non-state privately owned land areas, forest plantations or trees under registration and legal title, including forest-lands transferred to local indigenous peoples through indigenous communal land titling and registration procedures. Permanent forest reserves are “state forest covered on lands” excluding land privately owned, and categorized as production forest, protection forest and conversion forestlands for other development purposes. PFR cover around 70 percent of Cambodia’s forest resources, falling under the regulatory and management jurisdictional authority of the Forestry Administration (FA). Conversion forest areas are considered under the law as heavily degraded idle forestlands that have yet to be determined for a non-forestry use, but that can be reclassified by the RGC through sub-decree as state private land and be used for other development purposes, such as social-land or economic- land concessions³⁴. Presumably, the definition of carbon rights should be based on existing legal instruments for forest management such as the forest law (2003) and the law on protected areas (2008). As such, the forestry law establishes principles of transparency and public participation in decision-making processes (art.s 6, 4c) that could be applied in carbon activities, such as collective rights of local communities to participation in the allocation of benefits generated by carbon sequestered in their forestlands.

In the same way, it states that the FA shall promote forestation on degraded forestland and idle forestland (art. 7.5). The FA shall also promote the development of community forestry agreements and programs by providing financial and technical assistance to the communities (art. 7.6). Regarding land tenure rights, article 11 establishes that MAFF shall coordinate with concerned local communities, concerned local authorities and the ministry of land management, urban planning and construction, in order to assist in registration of land property of indigenous communities. Those procedures should also be used to clarify carbon ownership under different tenure instruments.

The Land Law (2001)

The 2001 Land Law sets out a comprehensive system of land classification and land ownership rights. It includes important provisions on social and economic land concessions (SLCs and ELCs), indigenous land rights, land registration, and land dispute resolution. In this respect, the land law (2001) also refers to the recognition of rights to land of persons who have had peaceful, uncontested possession of the land for a certain period of time, recognizing communal rights to immovable property for pagoda’s and indigenous communities (art. 23). The state recognizes and also ensures traditional rights to local communities living within or near the permanent forest reserves. The land law establishes

³² REDD-Net Bulletin Asia-Pacific. Carbon rights and REDD+. 2011.

³³ The right of the peoples concerned to the natural resources pertaining to their lands shall be specifically safeguarded. These rights include the right of these peoples to participate in the use, management and conservation of these resources (art. 15 of the International Labour Organization Convention N.169).

³⁴ The designation of areas for use as Social Land Concessions and Economic Land Concessions are considered as primary drivers of current land use change in Cambodia (See Section on Drivers of Deforestation and Forest Degradation below).

that individuals who plant trees on private land or on state forest land where they have been granted user rights, have the right to maintain, develop, use, sell and distribute their products. A safe presumption can be made that the owner of a tree also owns the forest carbon stored in the tree. In most cases, forest resources belong to the owner of the land property where forest resources are growing on. Naturally occurring, forest resources (and the carbon stored in them) growing on state public land is by definition property of the state. Since almost all forests in Cambodia are naturally grown, presumably the majority of forest carbon in Cambodia is state property.

The Land Law also authorizes the enactment of a series of important sub-decrees and other legislation that could include provisions on carbon rights.

The significant elements of this law for the forestry sector are threefold:

1. definition of state public property;
2. definition of state private property; and
3. definition of indigenous property under the collective ownership category.

The law distinguishes between state land in the public domain, such as forests and PAs, and state land in the private domain, which provides the legal mechanism for the granting of economic (agro-industrial production) and social land concessions. The 2005 Sub-Decree n.118 on State Land Management provides the framework for state land identification, mapping, registration and classification and notes where additional administrative guidelines are required.

The RGC adopted a declaration on Land Policy in July of 2009, which lays out broad principles and goals relating to land management principles in the country.

While this policy does not mention the forestry sector specifically, or management of forest resources in the country, it does state that the process of state land registration (both state public and state private) should be accelerated, and also calls for the development of a nationwide Land Information System (LIS) that is available for public reference, where carbon rights could be registered.

Viet Nam

The law on forest protection and development (2004)

The forest area is categorized into three types of forest, namely: special-use forest (2.1 million ha or 15.7 percent of total forest area), protection forest (4.7 million ha or 36.1 percent of total forest area) and production forest (6.2 million ha or 48.2 percent of total forest area)³⁵. Whereas previously only barren land and plantations could be allocated to households, under this law, special-use forests and protection forest covering respectively less than 1,000 hectares and 5,000 hectares (or composed of scattered plots) and natural forest considered to be production forests, can be allocated to households and individuals for management, protection, and development. Households, individuals, and village communities can also participate in the management of special-use, protection, and production forests under contracts with forest owners (state forest enterprises, management boards of special-use and protection forests). For the first time the law stipulates options for the allocation of existing forest resources to entire village communities, thus providing the legal basis for community forestry ownership titles on carbon.

³⁵ Vietnam has a landmass of 330 000 km², administratively divided in 61 provinces. Three quarter of the country is mountain and hillside terrain. Until the 1920 the uplands still mostly held forests. Since then accelerated forest landscape transformation has taken place. Several wars, high population pressure and an aggressive economic development policy since the 1960s in the north and since the late 1970s in the South are the main factors that lead to this changing landscape pattern.

More than one million households have now been issued with certificates for land ownership, either in natural or plantation forests. According to statistical data of the Department of Survey and Mapping (DoSM) of MONRE, during the last ten years, the government has invested more than USD50 million to establish detailed cadastral maps which were essentially used for forest and forestland allocations, that might include carbon ownership related rights. In September 2007, MARD launched a USD 61 million programme to facilitate the process of forests and forest land allocation and set an ambitious target by 2010, stating that all areas of forests and forestland are to be allocated to local communities, individual households and other economic entities with provisions of Land Use Rights Certificates, that could be used to identify who is entitled to benefit from forest carbon revenues.

The land law (2003)

The land law (2003) establishes that the land belongs to the entire people and the state is the representative owner. The state shall exercise the right of disposal with respect to land as follows: (a) Decide land use purposes by passing decisions and by considering and approving land use zoning and land use plans (hereinafter referred to as *land use zoning and planning*); (b) Decide the quotas on allocation of land and on duration of land use; (c) Decide allocation of land, lease of land, land recovery, and permission for conversion of land use purpose; (d) Determine land prices (art. 5). *People's councils* at all levels shall exercise the right to supervise the implementation of the laws on land within their respective localities. People's committees at all levels shall exercise the rights of the representative owner of land and state administration of land within their respective localities in accordance with the authority stipulated in this Law (art. 7). In this regard, the function of *People's councils* in supervising the implementation of the laws on land, within their respective localities, could be used to guarantee equitable carbon ownership rights to local communities. Land users rights include organizations, family households and individuals and communities of citizens (art. 9). Land use must comply with the following principles: 1. It must be correct in terms of land use zoning and planning and must be for the correct land use purpose and 2. It must be economical, effective and environmentally protective and must not cause loss to the lawful interests of surrounding land users (art. 11). Forest land for production; protective forest land and specialized use forest land are included in the agricultural land category (art. 13). The law specifies when land use rights shall be registered, e.g. the land user has not yet been issued a certificate of land use right and a person is assigned land use rights (art. 46). The Ministry of Natural Resources and Environment shall issue certificates of land use right. Certificates of land use right shall be issued for each parcel of land. Presumably, the certificates of land use rights could include the recognition of carbon rights to land users as interests that run with the land and can be registered accordingly. Where a parcel of land is subject to the mutual land use right of a community of citizens, the certificate of land use right shall be issued to the community of citizens and delivered to the legal representative of such community of citizens (art. 48). In this regard, the Ministry of Natural Resources and Environment could ensure collective carbon rights in parcels of lands used by a community of citizens in issuing the related certificates of land.

The government shall provide specific regulations on allocation of specialized use forest land (art. 77).

Land users shall have the following general rights: 1. To be issued certificates of land use rights; 2. To enjoy the results of their labor and the results of investment in the land; 3. To enjoy the benefits arising from state works for protection and improvement of agricultural land and to receive guidance and assistance from the state in improvement and fortification of agricultural land (art. 105). The specific regulations on allocation of *specialized* use of forest lands could also be for the purpose of carbon sequestration.

Finally, the State Committee for Ethnic Minority and Mountainous Area Affairs (CEMMA) has paid great attention on land use rights of ethnic minorities on forests and forestland. In addition to the nation-wide policies on forests and forestland allocation, the Prime Minister has issued Decision 304/2005/QD-TTg on 23/11/2005 on forestland allocation to individual

households and local communities of the ethnic minorities in the Central Highlands. The Resolution 30a/2008/NQ-CP also has some special articles to ensure that tenure rights of ethnic minorities on forests and forestland are respected and properly implemented³⁶. Those provisions should be considered to link carbon ownership with ethnic minority tenure rights on forestlands.

The Philippines

The Revised Forestry Code (PD 75 -705)³⁷

The Forestry Code is the basic forestry law in the country. All the other forest policies derive from this law. To support forest law enforcement, the institutionalization of the Multisectoral Forest Protection Committee (MFPC) as well as the establishment of the National Law Enforcement Coordinating Committee (NALECC) are considered as key initiatives³⁸. The composite committees meet regularly to discuss various issues and concerns of the forestry law, which might well include the need to define carbon rights ownership. There is also a need to clarify tenure of local communities, private individuals and groups engaged in forest development to ensure proper management regimes and reduce pressure on forests. A large extent of forests and forestlands belong to the state, which is legally responsible for allocating rights and licenses to individuals, corporations and other groups for development, use and exploitation. However, many unregulated open access areas still remain, and many forestlands are governed by conflicting tenure instruments. There is a need for greater tenure clarity and clearer boundaries in order to improve management regimes, increasing the security of local users and reduce pressures on natural forests.

The Forestry Code also provides for a system of land classification³⁹ as a basis for utilization and management (including reforestation and forest protection)⁴⁰ and penalties for illegal logging and other forms of forest degradation⁴¹. Thus PD705 could provide the foundation for defining associated carbon rights.

The Indigenous Peoples Rights Act (RA 97-8371 - IPRA)

The Indigenous Peoples Rights Act establishes extensive rights to indigenous peoples, which would extend to carbon rights. IPRA allows indigenous peoples the ownership rights on ancestral domains, and presents the foundation for decision-making on these lands and local access to benefits from associated natural resources. A key concept in IPRA is the “free and prior informed consent” (FPIC) provision, that all REDD+ projects in ancestral domains areas will be required to comply to define carbon rights. In particular, IPRA provides that legal rights of ownership and possession held by ICCs/IPs (aka tribal groups) to their ancestral domains, shall be recognized and protected. This includes the inherent right to self-governance and self-determination, and respect for indigenous values, practices, institutions and CBPRs. Consequently, the state must guarantee the right of ICCs/IPs to freely pursue their economic, social and cultural development.

The Republic of the Philippines is likewise legally obliged to prevent by law any form or coercion against ICCs/IPs. It shall also respect, recognize and protect the right of ICCs/IPs to preserve and protect their culture, traditions and institutions. All rights recognized under the IPRA shall be considered in the formulation and application of national plans and policies. The law likewise recognizes the indigenous concept of ownership, such that “ancestral

³⁶ Revised standard joint programme document.UN-REDD Viet Nam Programme. 2009.

³⁷ The Revised Forestry Code (PD705) was promulgated by Decree on May 1975, as amended by Executive Orders and by Republic Acts.

³⁸ Pescott, M.J, Durst, P.B, Leslie. R.N. 2010. Forest law enforcement and governance: progress in Asia and the Pacific. Bangkok (Thailand). FAO. NALECC is composed of all government law enforcement agencies, established nationwide, from regional down to provincial levels by Executive Order n. 41/1992.

³⁹ See Chapter II, *infra*, P.D. 705.

⁴⁰ See Chapter III, *infra*, *Ibid*.

⁴¹ Sections 78-84, *Ibid*.

domains are the (indigenous peoples') private but community property which belongs to all generations and therefore cannot be sold, disposed or destroyed⁴². Among the rights associated with the right to ancestral domain, is the right to develop the lands and natural resources within indigenous territories. This encompasses the right to negotiate the terms and conditions for exploration of the area's natural resources (presumably including carbon in trees), the right to participate in the formulation and implementation of projects that will impact on ADs (which among other things means REDD+ projects), the right to compensation for damages sustained as a result of any externally initiated project and the right to demand government efforts to prevent interference, alienation and encroachment by outsiders⁴³.

Indonesia

The Act on forestry affairs (1999)

According to Article 4, all forests should be regulated by the state, taking into account the rights of the communities: "forest control by the state (...) takes into account the rights of the communities upholding customary acts as long as they still exist, and their existence is recognized, and does not contradict with national interests". The law recognizes "customary law communities" as stated in Article 18B (2) of the Constitution: "The state recognizes and respects customary law communities along with their traditional customary rights", however it limits the extension of those rights according to a broad notion of "societal development" (Dunlop, 2009).

Customary rights in Indonesia

Customary rights in Indonesia are treated as weak usufructs on state lands and less than 40 percent of all land holdings are titled. Indigenous peoples and local communities lack both state protection of their rights and well-rooted customary institutions. Land and forest conflict between unprotected communities and state-licensed companies are prevalent throughout the country. Recently, the Indonesian President has agreed on the need to develop a law to protect indigenous peoples' rights. A draft indigenous rights bill is currently in the early phases of being considered by the Parliament.

Source: M. Colchester, M. Degawan, J. Griffiths, A. Mahaningtyas. The Forest Dialogue. Field Dialogue on Free, Prior and Informed Consent, 12-15 October 2010, Pekanbaru, Riau, Indonesia. Co-Chairs' Summary report. Connecticut, USA.

Moreover, since the implementation of the Forestry Act, some local governments have recognized adat forests, giving legal recognition to *adat* communities, and also granted community forest licenses to local communities (Fey, 2007), that may encompass carbon sequestration activities.

For example, Papua's Special Autonomy Law 21/2001, acknowledges the *adat* communities as "the members of the Papua natives living in and bound with high solidarity among its members," and defines adat law as "the verbal regulations or norms prevailing within the *adat* law community". The Law protects *adat* rights, and establishes *adat* courts, but does not specify when community practices prevail over formal statutory provisions (Takacs, 2009).

The Ministry of Forests has the responsibility to classify forests lands. Following the *gazettement*, the Ministry then has the authority to lease some concessions belonging to state forest areas to individuals, private companies, cooperatives and state owned enterprises (Deschamps & Hartman, 2006). Concessions can also be used to allocate carbon revenues

⁴² Section 5.

⁴³ LaViña, A. Lynch, O.J. 2010. REDD Lights: who owns the carbon in forests and trees? Carbon ownership as the basis of social accountability: The case of Philippines.

to local leaseholders. The proposed REDD+ Regulations (2009) would apply to sales by carbon developers of income from carbon credits, according to a set of uniform percentage-based splits between government, developers, and local communities⁴⁴.

Of relevance, the legislation on forest planning, management and use (Government Regulation PP 6/ 2007) provide a key legal basis, authorizing provincial and district governments to issue Permits for the Utilization of Environmental Services, called *Izin Usaha Pemanfaatan Jasa Lingkungan* (IUPJL) (Rafli *et al.*, 2007). IUPJL is a license to exploit environmental services including carbon storing and absorbing both in production and protection forest (REDD Monitor, 2008). It entitles holders to store and absorb carbon production and protection forests in area of 1000 hectare maximum, granted for a term of 30 years (Dunlop, 2009; Takacs, 2009). While there is no clear statement in the regulations that an IUPJL for carbon storage entitles the holder to all carbon rights, it is generally accepted that an IUPJL carries carbon ownership rights.

Moreover, while these regulations add some clarity regarding carbon rights in protection and production forests, outside of these areas the situation is unclear (Dunlop, 2009). Although the Special Autonomy Law grants 80 percent of forestry taxes to the Province, this does not necessarily mean that the same percent of carbon revenues will return to the Province (Takacs, 2009). The province of Aceh finds itself in a similar situation. While the central government has granted Aceh a greater degree of autonomy than any other province, it is still not clear whether or not this means the provincial government has total legal control to enter into and profit from forest carbon projects on government land (Takacs, 2009).

The Basic Agrarian Law (1960)

The BAL was the first piece of legislation providing principles and guidance to government's actions on the agrarian reform and the forest sector. The implementation of BAL is aligned with Article 33 of the Indonesian Constitution⁴⁵, which states that "Land, water and natural resources shall be controlled by the state and be used for the greatest benefit of the people". This statement gives to the Government of Indonesia the authority to control, regulate and manage forest lands and natural resources, for the purposes of 'national welfare' (MacAndrews 1986 cited in Thornburn, 2002). However, the BAL recognizes individual rights to use and own lands, or business tenures, as long term renewable leaseholds. Under BAL, customary land rights are also legally protected. The BAL establishes collective rights to the communities under customary law, although usufructs rights on state lands are subordinated to state plans and interests (Colchester & Fay, 2007). Customary law should be taken into account to clarify how carbon ownership rights could be linked to adat rights. Particularly, as carbon rights may be included in the category of third-generation human rights in parallel with collective rights, right to self-determination and right to economic and social development, thus recognizing the legal value of communities' practices⁴⁶.

The communities are also allowed to register their lands. In addition, the law recognizes previous ownership rights under both *adat* and Western systems, but provides a new certification process under which land has to be surveyed, mapped, and registered⁴⁷. However, land certification was not compulsory and registration was still far from complete by the end of 1980s. The law poses also certain limits on the zoning of land ownership, depending on the density of the population in the region and the type of land (Frederick & Worden, 1993).

⁴⁴ Costenbader, J. 2011. REDD+ benefit sharing: a comparative assessment of three national policy approaches. FCPF Facility&UN-RED Programme.

⁴⁵ The 1945 Constitution of the Republic of Indonesia, as amended by the First Amendment of 1999, the Second Amendment of 2000, the Third Amendment of 2001 and the Fourth Amendment of 2002.

⁴⁶ REDD-Net Bulletin for Asia-Pacific. 2011.

⁴⁷ *Gazettement* refers to the publication of an official announcement in a state gazette or official journal. The event or decision announced is thereby deemed to be public knowledge. Many laws require that such publication is made before a decision of the government may have legal effect. As far as forests are concerned, gazettement usually indicates that a forested area has been designated for protection by the state or other public authorities according to relevant legislation in force (Leonard & Longbottom, 2000).

**A REDD project in Ulu Masen:
Land Tenure Rights in the Ulu Masen ecosystem**

At the community level, the majority of landowners have neither land title certificates from National Land Agency (BPN) nor clear customary land boundaries. For instance in the case of the Ulu Masen ecosystem, most land owners do have local land documentation such as *Surat Keterangan Hak Milik* (Letter of Evidence of Ownership Right) signed by the *Keucik* or *Camat* (sub-district head) but it is not recognized by the state. Moreover, there is no legal, policy, and administrative assistance either in securing customary lands. Local communities as well still have low understanding of law, and no ability to lobby and effectively defend their rights.

Even so, there is a positive trend that can be seen from both cases. Local government have initiated in establishing province level regulations on customary rights, taking into account community participation in decision making processes. It has been supported by some NGOs and CSOs who have initiated participatory land use planning process in certain areas of the provinces.

Nepal

The Forest Act (1993)

This Act provides for the development and conservation of forest and for the proper utilization of forest products and services, which might include carbon sequestration activities. Chapter 1 of the Act defines, among other things, two broad categories of forests: private forests and national forests. The latter term refers to all forests in Nepal which are not private, and includes waste and uncultivated lands surrounded by adjoining forests. There are five types of national forests: government-managed, protected, community, leasehold, and religious. Persons may not acquire rights in national forests except by permit or license from the government, and any such rights cannot be alienated.

17. No Person to have any Rights in the National Forest: Except when any right or facility has been obtained through a lease or permit or in any other way from Government of Nepal or the authority empowered by Government of Nepal, no person shall have any right or facility of any type in the National Forest.

18. Rights over the National Forest not to be sold: No person shall sell mortgage, gift, donate, exchange or otherwise alienate the right or facility that he/she has obtained over the National Forests to any other, except according to an order of Government of Nepal.

Chapters 3 through 7 set forth provisions concerning each of the five types of national forests. Government-managed forests and all forest products therein are owned by the government. All actions within a government-managed forest are to be in accordance with an operational plan prepared by the Forest Department. Presumably, in those cases, carbon rights belong to the state although the following provisions relating to forests leases may be the basis for sharing carbon revenues generated by national forests with the leaseholders.

Chapter-6 Provisions Relating to the Leasehold Forest

31. **Grant of Leasehold Forest:** Government of Nepal may grant any part of the National Forest in the form of Leasehold Forest for the following purposes:-

(b) To sell and distribute or utilize the Forest Products by promoting its production through afforestation.

32. **Lease of Leasehold Forest:** (1) Any corporate body, industry or community established under the prevailing law which desires to take the Leasehold Forest for the purposes mentioned in Section 31, shall have to submit an application to the Regional Forest Director mentioning the area and boundaries of the Forest to be taken as Leasehold Forest planned programmes of the operations to be carried out to achieve the objectives and Prescribed other details and the economic feasibility report.

Chapter-8 Provisions Relating to the Private Forest

38. **Provisions Relating to the Private Forest:** The owner of the Private Forest may develop, conserve and manage the Private Forest and utilize or sell and distribute the Forest Product by fixing their prices according to his/her own will.

39. **Certificate of Private Forest:** (1) Any person or institution desirous to register a Private Forest may apply to the District Forest Office for the registration of such Private Forest.

40. **To remain in the Ownership of Government of Nepal:** (1) The trees standing in the resided or rehabilitated land from the very beginning of its award shall remain in the ownership of Government of Nepal.

Protected forests are areas which the government feels are of special environmental, scientific, cultural or other importance. Community forests are areas of national forest "handed over" to a user group, which is entitled to develop, conserve, use and manage such forest, and sell and distribute the forest products by independently fixing their prices.

Chapter 8 concerns private forests. An owner of private forests may develop, conserve and manage it or use, sell and distribute its products as he likes, including benefits generated by carbon sequestration activities. Chapter 9 deals with the formation of users' groups, their registration and legal personality. Finally, chapter 13 contains miscellaneous provisions, including a statement that ownership of all national forests remains vested in the government. Those provisions will be crucial in determining the ownership of carbon revenues between state and non-state stakeholders.

Finally, the Forest Act 1993 provided special provision in handing over the national forest to local communities through community forest user groups which recently managed more than one quarter of the total national forest in a sustainable manner. More than 14,000 forest user groups are involved in the management of community forest and nearly 40 percent of the total population benefits. The community forest user groups might presumably be the owners of carbon rights derived from the management of those national forests.

The role of community forestry user groups at local level

There are over 20 000 community forestry user groups (CFUGs) managing more than one million hectares offorests in a sustainable way. The CFUGs have reversed past trends of deforestation, and have enhanced a number of livelihood assets. In a number of innovative cases, they have created provisions to directly benefit the poor and excluded groups. The existence of CFUG networks from local to national level also creates opportunities for communities to raise their voice at different levels of governance, and also to promote collective efforts for forest management and carbon marketing. CFUGs have thus a strong potential to receive added financial rewards for their contributions to checking deforestation and degradation, and to be entitled to own carbon rights generated by REDD+ or even by voluntary markets, if appropriate intermediary support is available. If CFUGs are able to access rewards for carbon offsets, it would represent a significant contribution to the income of community groups and to the sustainability of the community forestry programme in Nepal.

In Nepal, community forestry is implemented by forest user groups who were behind the formation of the Federation of Community Forestry Users Nepal (FECOFUN). According to FECOFUN, more than 14 500 forest user groups are currently affiliated and membership continues to grow. FECOFUN has become an effective mechanism for dialogue between policy-makers and forest users. It also acts as a learning centre to assist user groups in engaging in forest management. It is estimated that user groups are now managing 25 percent of Nepal's forest area (Khatri 2008)⁴⁸.

Following the opinion of a FECOFUN's member, community forestry should not be separated from user rights over forests. Instead, carbon produced by trees both above and below ground should be linked to forest user rights (Apsara Chapagain, FECOFUN)⁴⁹.

In Nepal, communities have been granted full ownership, management and 100 percent of revenues from community forestry, providing strong incentives for responsible forest management. Presumably, those provisions could be applied to REDD+ schemes. Therefore, presumably, carbon rights should not be separated from other rights, particularly as local and indigenous peoples relate to their ecosystems in a collective and holistic way.

To implement the Forest Act 2049/93 and the Forest Regulation 2051/95, the Community Forestry Directives 1995 (No. 2052 of 1995) make additional provision concerning matters which might have an implication to define carbon ownership rights such as (a) registration and recognition of community forests; (b) establishment of User Groups and handing over of community forests and (c) operational plans.

Following Dr. Jagadish Chandra Baral's opinion, as the previous Head of REDD-Forestry and Climate Change Cell under the Ministry of Forests and Soil Conservation, the payments should not be related only to carbon sequestered by trees in Nepal, but also allocated to "managerial and forest enhancement efforts of communities". However, the approaches advocated by civil society groups to realize such benefits, including expansion of community forestry in the Terai region and full land rights for existing CFUGs, have been resisted by the government because of its reluctance to devolve full rights to such groups. This is due to the high value of timber and other resources considered as 'national wealth' that should benefit the whole country rather than just CFUGs. CFUGs are asking the government to define their forest carbon rights and include the provisions on carbon rights in the forest management plans of CFUGs in order to lend some clarity to carbon ownership before REDD schemes are introduced.

⁴⁸ FECOFUN emerged from the idea that forest users from all parts of the country should be linked to strengthen their role in policy-making. Since its inception in July 1995, FECOFUN has grown into a social movement with some 8 million members – all of whom are forest users. (see www.fecofun.org).

⁴⁹ Suzuki. R. 2011. Bulletin. Asia-Pacific. Carbon rights and REDD+ January. REDD-Net.

China

The Forestry law of the People's Republic of China (1984)

China is a country with more than 195 million hectares of forestland. About 42 percent of the forest land, mostly natural forest, is owned by the government and managed by state forest enterprises and farms. Collectively-owned forest land accounts for 58 percent (Chen 2008). China's forests have captured and stored an estimated 7.81 billion tons of carbon⁵⁰ while the forest area increased by 2 million hectares per year in the 1990s and by an average of 3 million hectares per year since 2000 (FRA 2010). Chinese government has also developed one of the world's largest PES programs concerning forest growth and carbon sequestration. Other than the private forestry sector, there are three prominent forestry initiatives in China linked to carbon sequestration: the Nationwide Reforestation Campaign, the Grain for Green program, and the Natural Forest Protection Program. So far, these initiatives have been highly successful in reducing carbon emissions. From 1985 to 2005, these initiatives achieved a combined reduction of carbon emission in the amount of 5.1 billion tons⁵¹. From 1980 to 2008, official data shows that China reforested more than 92 million hectares of land. The forest cover percentage improved from 8.6 percent in 1949 to 18.21 percent in 2008 and today China adds approximately 4.7 million hectares of newly-planted forest each year⁵².

In 2008, the Chinese Communist Party [CCP] Central Committee and State Council adopted a Decision endorsing the collective forest property reform in China. In 2009, the Central Forestry Working Conference acknowledged the need to re-orient forestry activities to pursue climate change targets and decided to fully implement collective forest property reform, establishing a support system for this reform.

Forestry Development in China

September 2007: At the 15th APEC informal meeting held on the 8th September 2007, the Chinese President Hu Jintao proposed an initiative to establish an Asia-Pacific Network for Forest Rehabilitation and Sustainable Management, and presented China's promising object that in 2010 China's forest coverage will be 20 percent.

September 2009: At UN Special Session on Climate Change, Chinese President Hu Jintao announced that China will increase its forest area by 40 million hectares until 2020 to demonstrate China's contributions to the global efforts to combat climate change.

Source: Li Yucai. Forestry Reform in China. State Forestry Administration of P.R. China. October 7, 2009 (ppt).

In spite of the inclusion of provisions aiming to strengthen farmers' forestland rights into the recent forestry and land laws, the proliferation of laws related to forestry makes the understanding of forest-related rights and consequently the definition of carbon rights, a complicated matter in rural China.

The first law to recognize farmers' rights to collective forestland subject to registration was the Forest law (1984) which states that: "Forest resources, with the exception of those owned by collectives as provided for by law, shall be owned by the whole people. The forests, trees and forest land owned by the whole people and by collectives, as well as the trees owned and forest land used by individuals, shall be registered by the local people's governments at the

⁵⁰ Jingyun. F. Zhaodi. G. 2007. Calculation of Carbon Amount for Land-covering Trees and Vegetation in China during 1981-2000. China Sciences: Earth sciences. Vol. 37(6), pp.804-812.

⁵¹ Keliang . Z. Vhugen. D. Hilgendorf. N. 2010. Who owns carbon in rural China? An analysis of the legal regime and practices with preliminary policy recommendations. RRI. Washington D.C.

⁵² Id. See also Jia Zhibang (Director General of SFA), Speech at National Forestry Division and Bureau Directors Conference, Jan. 21, 2010, available online at www.forestry.gov.cn .

county level and above, which shall, upon verification, issue certificates to confirm such ownership or right of use. The lawful rights and interests of the owners and users of forests, trees and forest land shall be protected by law and shall not be infringed upon by any unit or individual” (art. 3).

The Rural Land Contracting Law (2002 - RLCL)

The Rural Land Contracting Law (2002 - RLCL) regulates farmers’ rights to collective forestland, establishing that forestland are categorized as “contracting and operation rights” and are allocated to individual rural households through contracts of 30 years or longer. In particular, article 20 states that: (...) “The term of contract for forestland ranges from 30 to 70 years and the term of contract for forestland with special trees may, upon approval by the competent administrative department for forestry under the State Council, be longer. The Law also protects individual and collective land rights establishing that: “In land contract in rural areas, the principles of openness, fairness and impartiality shall be adhered to and the relationship of interests among the state, the collective and the individual shall be correctly handled” (art. 7). The state protects the legitimate rights and interests of the owners of the collective land and the right of the contractors to land contractual management, which no organizations and individuals may infringe upon (art. 9). Under the RLCL, farmer land rights include rights to use, profit from, and transfer land contracting and operation rights, and the right of autonomy over production and operations (art. 16). The state also protects the circulation of the right to land contractual management, which is effected according to law, on a voluntary basis and with compensation (art. 10).

As mentioned above, the 2002 Rural Land Contracting Law secures farmers’ use rights to land, including the right to use, profit from, transfer, and claim autonomy over production, operations, and disposition of products (art. 32). In addition to that, the 2008 Directive recognizes these rights and goes further, establishing that all existing trees and forests on allocated forestland are owned by farm households (subject to existing restrictions under the Grain for Green Program). It represents the largest transfer of ownership of trees and carbon in the world, equivalent to approximately 110 million hectares of forestlands.

Although ownership on carbon has not yet been defined, the legal framework is clear in defining ownership rights on trees. In particular, article 27 of the forest law states that: “rural residents who plant trees around their residential houses or in their private mountains or land own such trees. Collectives or individuals who contract state-or collectively-owned waste mountain or waste land, and thereafter plant trees, own such trees, unless the contract provides otherwise”. Therefore, presumably, the owner of the tree will also own the carbon stored in that tree.

Papua New Guinea

The Forestry Act (1991)

In Papua New Guinea, the forests and the land are owned by the tribal clan groupings, corresponding to approximately 97 percent of the land. There are very few government-owned lands or forests. Increasingly, landowners want forest development to take place to facilitate their access to basic goods and services. Hence, pressure is being exerted on the government to acquire the land for commercial purposes.

In order to facilitate the development of any forest area especially through logging operations, the Forestry Act 1991 (as amended) stipulates that the rights over timber resources must be willingly transferred by the landowners to the state. This is undertaken by applying the provision of the Act that relates to a Forest Management Agreement (FMA). This agreement is for a period of 50 years. In this regard, legislators might contemplate to adopt a similar approach to define ownership carbon rights. Recently, the government has progressed work to develop a carbon trading policy and the current Forest Minister has made it clear that he wants to see in place a carbon trade policy specifically for forestry.

The country is following issues relating to climate change and in particular REDD+ and avoided deforestation. It has formally created a Climate Change and Environmental Sustainability Office under the directive of the Prime Minister in 2008. Various NGOs have also taken up the cause and have begun consultations on how rural communities can best venture into the carbon trading market using their forests. The PNG Forest Authority and the Office of Climate Change and Environmental Sustainability are working on developing appropriate guidelines on Carbon Trading Policy for forests, due to global interest in investing in this sector. Those guidelines might need to consider the relevance of ownership rights on carbon to guarantee equitable benefits to the rural communities.

Customary land rights

In Papua New Guinea, customary land rights are recognized by the Constitution. However, although domestic legislation recognizes the rights of customary owners to forest resources, landowner representatives often have little understanding of the agreements they enter. In 2001, an independent review on forestry projects in Papua New Guinea concluded that in most cases landowners did not have adequate information to make an informed decision regarding the transfer of their forest management rights to the National Forestry Authority. The report also pointed out that many agreements were obtained without following prescribed procedures to obtain landowners' consent. In several cases, landowners were not issued with appropriate certificates and copies of agreements negotiated with logging companies, thus making subsequent legal challenges extremely difficult. As a result, customary owners had no remedies to take action against breaches of concession agreements. REDD projects in Papua New Guinea face analogous challenges. The need to protect customary owners from abuses has already become manifest in a recent episode relating to fraudulent forest carbon contracts⁵³.

Summary of key points

The relation between forestland ownership, user rights and carbon rights is complex. To define carbon rights, several tenure issues must be taken into account:

- Forest tenure is the first step in determining carbon ownership.
- Establishing rights of communities and customary practices should fairly be considered and 'elite capture' avoided during this process.
- Providing clarity on forest tenure will in turn give greater security to forest owners and users.
- Community forestry agreements, permits, licenses, concessions and allocation of special use rights should be used to assign carbon revenues to local stakeholders.
- Carbon ownership rights should be defined within the context of Human Rights.
- A special registry on carbon rights should be created and linked to tenure rights.

ii- Carbon rights and benefit sharing

Participatory forest management (PFM) and payment for environmental services (PES) in some Asian countries have accounted for crucial forest rehabilitation processes, and could provide promising options for delivering REDD+ if carbon ownership rights are recognized and benefit-sharing improvements are made⁵⁴. Participatory forest management (PFM), and community forest management (CFM) in particular could provide profitable, sustainable

⁵³ Forest Trends (2006); Vegter (2005); Australian Conservation Foundation and the Centre for Environmental Law and Community Rights (2006); Sydney Morning Herald (2009).

⁵⁴ Rudel, T.K. et al. 2005. Forest transitions: towards a global understanding of land use change. Global Environmental Change.

opportunities for both commercial enterprises and local and indigenous PFM participants if combined with carbon financing. To make that possible in a PFM context, however, sufficient revenues would need to be spent on local capacity-building in techniques such as reduced impact logging as well as on overhauling forest governance and benefit-sharing arrangements. Additionally, Asian countries will need to focus REDD+ financing both on revising national policy incentives and legal frameworks promoting agriculture-related deforestation as well as prioritized payments among subsistence and intensive farmers to promote forest conservation and carbon sequestration practices. Factors involved in designing benefit sharing schemes are not just economic but social, cultural, and even psychological within each community, potentially including power, gender, and generational issues as well (Human Rights Approach)⁵⁵.

Cambodia

In relation to REDD+ arrangements, the provisions of forestry concessions contained in chapter 5 of the Forestry Law (art.s 13-23) could be used, but it would be necessary to either amend or redraft the existing Sub-Decree on Forest Concession Management (2000) accordingly. In fact, conservation concessions could be a powerful new tool to finance sustainable forestry, used to manage and protect large forest lands and define ownership rights on carbon, particularly large areas of post-concession forests or protected areas that require additional funds for long-term management costs. The conservation concession model would allow Cambodia to gain funds from preserving natural resources, thereby providing an innovative economically viable alternative to Land Concessions in Cambodia. Conservation concessions could be financed through REDD+. However, further work would be required to understand how conservation concessions might work in the Cambodia context, potentially in both the Permanent Forest Reserve and Protected Areas. Another possible innovative financing model related to REDD+ would be to develop payments for ecosystem services policies for protected areas, including carbon sequestration activities⁵⁶.

The Oddar Meanchey REDD project

In the context of the first community forestry REDD project in Cambodia (Oddar Meanchey Province), the Government Decision (GD) No. 699/2008, has confirmed that revenues from the project will be used to improve the quality of the forests, to maximize the benefits flow to local communities participating in the project and study potential sites for new REDD projects. It is supported by a FA's written statement establishing that a minimum of 50 percent of the net income after project costs will flow directly to local communities. In fact, the precise level of income perceived by the local communities will remain unclear until the credits are actually being exchanged for a given amount of money. The prevailing price of carbon will play an oversized role in the level of financial benefits generated by the project.

It is also mentioned that the benefits to the communities would come in different forms:

- secure tenure and access to resources;
- employment benefits;
- training and capacity-building; and
- social benefits.

To guarantee a fair distribution of benefits, it recommends that discussions and decisions on benefit sharing take place early on in project development, and that sufficient legal advice is available in developing the agreement. Furthermore, although this project appears to have been successful in securing substantial carbon income for local communities, it is recommended that the CCB and other standard-setting organizations participate in

⁵⁵ Costenbader.J. 2011. REDD+ benefit sharing: a comparative assessment of three national policy approaches. FCPF Facility& UN-REDD Programme.

⁵⁶ UN-REDD - National Programme Document - Cambodia - Nov. 2010, Washington D.C.

developing stronger policies to ensure that the benefits generated by the communities are appropriate and fairly distributed. Investors in carbon credits should also be encouraged to demand social accountability standards⁵⁷.

Vietnam

Vietnam is the first country in South-East Asia to implement Payment of Environment Services (PES). One important policy decision related to the establishment of a payment distribution system is the Decision 661/98 on Objectives, Tasks, Policies and Organization for the Establishment of Five Million Hectares Reforestation Program. This Decision, in addition to paving the way for the establishment of five million hectares of new forests, also puts in place mechanisms to protect existing forests. People's Committees of provinces have to identify the location and extent of forests, and to supervise the allocation or lease of land and the issuance of Land Use Rights Certificates (the so-called Red Book) to organizations, households, individuals and other legal economic entities. Non-reimbursable state funds are then used for payments to households for protection of the forest, the current average payment being VND 100 000/hectare per year.

There have also been important policy developments related to payments for ecosystem services (PES) based on the Three key environmental services of forests are piloted: i) water supplies and regulation, ii) soil erosion protection, and iii) ecotourism. Under this pilot policy, USAID is supporting the testing of PES in Lam Dong province (in the Central Highlands) through Winrock International, while GTZ is supporting the testing of PES in Son La province (in the Northwest). In theory, through PES systems, forest dwellers can become direct beneficiaries of forest carbon sequestration activities, contributing to the sustainable forest management. Almost all people participating in the pilot PES are ethnic minorities in the Lam Dong and Son la provinces.

The Philippines

The Climate Change Act of 2009(RA 09- 9729)⁵⁸ and Act of 2009 and Executive Order 881/2010 on REDD+, the creation of the Climate Change Commission (CCC), and the adoption of the National Framework Strategy on Climate Change (NFSCC), provide significant opportunities to develop a legislation on carbon rights. However, prior to any significant development, there is a need to clarify the relation between carbon ownership rights and tenure rights. Rights may be allocated directly to forest owners, notably in the case of Indigenous Peoples (IP) and private land and title-holders. The state may also claim ownership of carbon as a publicly-owned asset, in which case the principles of community priority rights in terms of revenue and equitable sharing shall govern the sharing of profits.

There are number of national legal instruments that would ensure local ownership rights, and rights to equitable income derived from carbon revenues to local communities, employees and local government units (LGUs). The Indigenous Peoples Rights Act (RA 97-8371 - IPRA), signed into law on October 1997, clearly expresses the rights of ownership of IPs over lands, waters, and natural resources and the rights of interests over land and natural resources. On that basis, they have the right to benefit from environmental gains and draw redress for social and environmental costs to such activities. In addition, the guidelines and procedures for the recognition, documentation, registration and confirmation of all sustainable traditional and indigenous forest resources management systems and practices (STIFRMSP) of indigenous

⁵⁷ Status of REDD+ Biodiversity Benefits in Cambodia by Dr. HENG Chan Thoeun (ppt). Deputy Director of International Conventions and Biodiversity Department, and National Team Leader for V&A Assessment to Climate Change Ministry of Environment.

⁵⁸ On 23 October 2009, the President signed into law Republic Act No. 9729, otherwise known as the Climate Change Act. The law created the Climate Change Commission, composed of the President, as chairperson, and three (3) commissioners to be appointed by the President, which is tasked to coordinate, monitor and evaluate the programs and action plans of the government relating to climate change.

cultural communities or indigenous peoples in ancestral domain/land adopted by Order 1/2008, recognizing the inherent rights of the Indigenous Cultural Communities (ICC), states that “the state shall protect and guarantee their rights to pursue their economic, social and cultural well-being (...) to ensure the equitable sharing of benefits from the natural resources within their ancestral lands” (sec. 1-2.1c). Accordingly, customary laws shall be applied to the management of forest and forest resources (Sec.4d) and the National Commission on Indigenous Peoples (NCIP) is in charge to issue the certificates of ancestral domain titles (sec. 5.2b), that should include carbon rights.

The Executive Order 318/2004 on Promoting Sustainable Forest Management specified proper valuation of forest resources, collection of fees related to resource use and fair benefit distribution. These regulations also provide a basis for determining ownership rights on carbon, generated by carbon sequestration activities.

Indonesia

The main regulation referring to carbon rights is the MoF 36/2009 regarding Procedures for Licensing of Commercial Utilization of Carbon Sequestration and/or Storage in Production and Protected Forests. The proposed regulation outlines a plan to follow a benefit-sharing approach based on central government apportionment of revenues. The regulation would apply only to sales of income from carbon credits generated by carbon developers, according to a set of uniform percentage-based splits between government, developers and local communities. Eleven percentage split scenarios are proposed for distributing revenues depending on forest type license and project developers’ entities. In most cases, communities and government would receive 20 percent each and project developers 60 percent. The government share would then be divided 40 percent to the central government and 20 percent to both provincial and district governments.

In the last decade, Indonesia started a series of progressive reforms to rehabilitate its Reforestation Fund (*Dana Reboisasi*, or DR) created under the Soeharto regime. The DR fund, financed from a fee charged on timber concessionaires, was intended to be used for reforestation and rehabilitation of forestlands. The total amount of the DR fund was 5.8 billion USD over a period of 20 years, however only a small percentage was devolved to reforestation projects. Instead, elite interests and projects in conflict with its mandate (e.g., traditional logging plantations) captured a large portion of the fund. DR projects generally benefited powerful forestry companies while local communities were often displaced from their customary lands without compensation.

More recently, in November 2009, the Indonesian Ministry of Finance released a ‘Green Paper’ concerning options for climate mitigation finance, including preliminary discussions of using a ‘Regional Incentive Mechanism’ for distributing benefits from the central government to regional governments, based on REDD+ performance as well as other locally-based climate mitigation and adaptation measures⁵⁹. This proposal would give to regional governments “full control over the design and implementation of projects”, while the central government would choose the most cost-effective proposals for their implementation, taking into account development priorities⁶⁰. The Green Paper further suggests options for channelling REDD+ financing either via existing national funds or via a system of direct grant agreements. Following this second option, Indonesia’s approach could take the form of an intergovernmental transfer mechanism and have the added advantage to delegate decisions over government payments and/or percentage-based revenue sharing from carbon credit sales to sub-national entities, according to differing local opportunity costs. This approach is also currently under consideration by the Government of Indonesia as a potential REDD+ benefit-sharing model.

⁵⁹ Indonesia Ministry of Finance, *supra* note 28, at 12.

⁶⁰ *Id.* at 12. See also, Ring, I. *et al.*, 2010. Biodiversity conservation and climate mitigation: what role can economic instruments play? Current Opinion in Environmental Sustainability.

The design of the Indonesian national REDD payments system, in the context of carbon rights would involve decisions over:

- financial transfer mechanisms at different scales;
- revenue allocation;
- forms of payment and timing;
- legal and other institutional structures; and
- risk management options (MoF, 2008).

Regarding issue referring to the identification of the 'seller', there are two options; transactions would take place with the central government or would be carried out with lower government levels or directly at project level.

Then redistribution of funds can take place in three ways:

- according to government administration hierarchy: national - provincial - district government - village;
- based on the management of forest functions: national - national forestry authority - local forest management units;
- domestic project-based with the nation as re-seller on the international market: national authority - project entities - local actors (MoF, 2008)⁶¹.

China

Chinese government boasts one of the world's largest PES programs concerning forest growth and carbon sequestration. The twist is that most of the PES programs are largely established, operated and administered in a centrally-planned manner by the Chinese government. Although PES is sometimes referred to as a "market-based instrument" or a "market for ecosystem services," the extent of market transactions for the PES in China is low. In a country where the property rights regime concerning collective-owned forestland is not clearly defined, this is probably necessary but it also creates a variety of issues.

A 2007 project funded by a German company took place in Tengchong County, Yunnan. The 476-hectare afforestation project is anticipated to generate 170 000 CERs. The land at issue is collectively-owned by villages and farmers and was mostly barren since 1959. Farmers were consulted and gave informed consent to the project, and a local forest farm provided resources, equipment and labor to undertake the afforestation. The funds generated from CER credits, to be distributed as subsidies over a 30-year period, are to be shared among affected farmers (in this case, 433 farm households) and the local forest farm. In addition, Liaoning, Sichuan, Inner Mongolia, and Hebei have undertaken carbon sequestration projects, and a number of other provinces are currently exploring similar opportunities. Multiple technical and management factors determine whether such afforestation and reforestation projects can be successful in the long run. For the purposes of this paper, one must note that there is great deal of tenure insecurity involving forestland, which seems to become a major obstacle to achieving the goals of sustainable forest management and equitable development in the countryside.

The actual payments to farmers who provide ecosystem and carbon sequestration services are inadequate. For affected families whose farmland is converted to forestland under the Grains for Green program, each person receives the equivalent of about US\$40 a year as compensation. The NFPP deprived the farmer-owners of all economically viable use of their forestland and trees, but no compensation is paid. Based on Chinese research surveys, affected farmers expressed a relatively high level of dissatisfaction with compensation

⁶¹ Melissa.I. 2010. The Legal System for the Implementation of Forest Carbon Schemes within REDD+ Projects in Indonesia: Will it secure property rights? University of Padua. Faculty of Agriculture. Departments of Land and Agro-forestry Systems.

standards under the NFPP and Grain for Green. Recent research and policy papers have noted this problem and called for improvement in compensation⁶².

Summary of key points

Equitable benefit sharing of carbon ownership rights is key to ensure sustainable development objectives in the medium-long term:

- Existing forest governance mechanisms can assist in covering gaps in communication between the national, sub-national and local level, thus facilitating the understanding of benefit sharing mechanisms and their implications at the community level.
- Factors involved in designing benefit sharing schemes are not just economic but social and cultural, and should be based on human rights principles.
- Conservation concessions could be a powerful tool to finance sustainable forestry and define ownership rights on carbon, particularly in large forest areas.
- Benefits generated by carbon sales may be distributed in different forms: e.g. employments benefits, training and capacity building, social benefits, secure tenure and access to resources.
- Payment for environmental services programs can be considered as a reference scheme to develop PES linked to forest carbon sequestration activities.
- Governments and communities should both give their consent (FPIC) and participate in the design of benefit-sharing of carbon revenues, ensuring access to opportunities for benefit sharing to vulnerable groups.

V- Conclusions and Recommendations

i- A country-case approach

Forestlands in **Cambodia** are entirely owned by the state but the Permanent Forest Estates are managed by different government agencies, creating overlapping management responsibility on forestlands in the country. In addition, neither the Forest Law nor the Sub-Decree on Community Forestry state clearly how benefits derived from forests management activities should be shared between the government and the local communities (Heng and Scheyvens, 2009). Therefore, the decisions on how forest carbon revenues will be channeled to the local communities will depend on the negotiation between communities, NGOs and the government (RKC). On the other side, although all forestlands in Cambodia are owned by the government, the trend is to transfer some of the remaining forest areas under the community and protection forests regimes, through which community carbon rights could be recognized. The trend is also in line with the government's commitment to allocate the remaining forests under the community forestry program and protection status. The implementation of REDD+ projects in the country might help to speed up this trend.

In the **Philippines**, the review of existing regulations for social and environmental protection, including national legislation on benefit-sharing and safeguards and regulations under the United Nations Framework Convention on Climate Change, will help determine what additional regulations may be required. This should be informed by the updated Community, Climate and Biodiversity Alliance (CCBA) standards. The endorsement of the Climate Change Act 9729/ 2009 and Executive Order 881/2010 on REDD+, the creation of the Climate Change Commission (CCC), and the adoption of the National Framework Strategy on Climate

⁶² Keliang, Z. Vhugen. D. Hilgendorf. N. 2010. Who owns carbon in rural China? An analysis of the legal regime and practices with preliminary policy recommendations. RRI. Washington D.C.

Change (NFSCC), provide significant opportunities to develop a national legal framework on REDD+, including the definition of carbon rights. Carbon rights may be allocated directly to forest owners, notably in the case of Indigenous Peoples (IPs) and private land and title-holders. The state may also claim ownership of carbon as a publicly-owned asset but the principles of community priority rights in terms of revenue and equitable sharing shall govern the equitable sharing of profits. Legal instruments influencing climate change and forests, such as regulations linked to benefit-sharing, safeguards, environmental conservation and enforcement, and payment for environmental services remain the basis for the determination of carbon ownership rights and payment distribution mechanisms. Regardless of legal land tenure status, all forest managers are significant to REDD+ implementation, and so must receive incentives to engage in low-emissions activities, such as carbon sequestration. Carbon tenure must be formally addressed in forestlands where communities have rights, especially on ancestral domain lands subject to the Indigenous Peoples' Rights Act. In these cases, there will be a need to establish equitable resource taxation. If local user rights lack formal rights to carbon tenure, rights of indigenous peoples and local communities should be recognized and respected.

For **VietNam**, policy adjustments would mainly require i) a clarification of the legal status of communities, ii) simplified benefit sharing arrangements between communities and the state and iii) reduction of natural resource tax levels for communities who apply selective regulated logging, based on approved management plans as contribution to environmental landscape protection and as clear incentive for legal forest utilization.

A clear assignment of competences within the Department of Forestry of Ministry of Agriculture and Rural Department (MARD) and responsible regional and provincial efforts are needed, and should ultimately be responsible in drafting Decisions on carbon rights. Provincial policy development in Vietnam often anticipates developments at national level and is encouraged as significant contribution to national policy development, thus emphasizing the crucial need for effective and continuous bi-directional communication channels between national and provincial level in the establishment of rights and responsibilities associated with carbon ownership⁶³.

The **Indonesian** context regarding carbon rights is still immature and deserves further attention from the government and the Parliament. In developing future legal instruments, it will be relevant to take into account concession models as well as land user partnership schemes. Although there is an idea of promoting separate carbon ownership as part of NTFPs in the rehabilitation land REDD project (Meru Betiri national park), recognizing carbon rights as a separate interest from forestlands is still controversial since there are no clear regulations and mechanisms supporting this case yet. The REDD project in Ulu Masen, Aceh is also a successful example in recognizing indigenous peoples' rights, paving the way for a future definition of carbon rights based on a human rights approach. Benefit sharing is another important concern in implementing REDD+ mechanisms. However, there are no clear regulations on this issue yet. At this stage, the implementation of benefit sharing principles are strictly related to existing REDD+ projects in the country. Contradictory and overlapping laws as well as sectoral interests still constitute an obstacle to clearly define carbon rights. Moreover, it seems that relevant rights holders don't have the capacity to understand *strict sensu* what a carbon rights is⁶⁴.

In **Nepal**, although policies and laws are in place, enforcement is weak which might create difficulties to recognize ownership carbon rights to forest user groups. Sectoral reform is required to secure land tenure rights associated with carbon rights, and to keep track with the changing environment and aspiration of the people. In particular, the government institutions

⁶³ Revised standard joint-programme document. 2009. UN-REDD VietNam Programme.

⁶⁴ Melissa.I. 2010. The Legal System for the Implementation of Forest Carbon Schemes within REDD+ Projects in Indonesia: Will it secure property rights? University of Padua. Faculty of Agriculture. Departments of Land and Agro-forestry Systems.

that are responsible for implementation of policies and law enforcement are severely constrained by the lack of financial resources. As a result, quite a number of laws are not yet well enforced or implemented (Khatri 2008)⁶⁵. On the other hand, empowered local community groups (forest user groups), have been able to demonstrate over the past decade that, supporting their capacities through a program of social mobilization, can effectively pursue an approach delivering benefits to poor and social excluded households in a way that has been extremely difficult to ensure elsewhere. The challenge is to ensure that carbon funds can also be targeted by the institutions, and also that experiences in effective pro-poor governance can be extended to other areas of the forest sector.

In **Papua New Guinea**, contracts between communities and potential investors can be published to inform stakeholders of proposed arrangements on forest carbon and allow for public comment. The equity in benefits-sharing of REDD+ revenues, including carbon revenues, should be a goal to be achieved by the implementing institutions, taking into account the following elements:

- equitable compensation;
- equal opportunity;
- poor targeted; and
- poverty alleviation.

A consistent legal framework must also provide for processes and schemes on how to manage risks and conflicts associated with carbon rights under REDD+. It should thus be clear about identifying roles and responsibilities, identifying rights and safeguards, and specifying incentives and enforcement measures. For example, in case of breach of contract, ensuring compliance can be difficult if based only on non-payment or civil law for breach of contract and damages (slow procedures/insolvent landholders). One way to tackle this issue could be to structure the (concession) contracts defining carbon ownership rights as conservation easement, guarantying immediate injunctive actions against landholders violating the terms of the easement⁶⁶.

Finally, **China** has not yet developed a clear legal framework on carbon rights. Therefore, the existing forest and land property laws constitute the basis to define who owns carbon. Based on the Rural Land Contracting Law (2002), the assumption is that the majority of forestland in rural China is collectively owned. However, since 2008, China started an ambitious and comprehensive collective-forestland reform. The spirit of the reform is to further clarify and improve forestland tenure security by allocating and “contracting” practically all collectively owned and managed forestland to individual farm households for a term of 70 years. The State Forest Authority (SFA) expects to complete the reform by 2013, allocating 167 million hectares of collective forestland to Chinese farmers. New forestland certificates are to be issued to ensure farmers’ rights. As example, we might consider the practice related to afforestation projects. In Sichuan province, 12 000 farmers whose land is used for the purposes of the project, are estimated to receive 30-40 percent of the total revenue generated from the future sale of carbon credits. The payments to farmers reflect the value of farmers’ rights over their forestlands, and therefore of the carbon sequestered in those lands. Nationalizing carbon rights will run against the ongoing collective forestland tenure reforms and processes of decentralizing and transferring rights over forestland and trees to individual farmers⁶⁷.

⁶⁵ Yasmi.Y. Broadhead.J. Enters.T and Genge.C. 2010. Forest policies, legislation and institutions in Asia and the Pacific. Trends and emerging needs for 2020. Asia-Pacific Forestry Sector Outlook Study II. FAO-Bangkok.

⁶⁶ Chomitz, K. et al. 1998. Financing environmental services: The Costa Rican experience and its implications. *Science of the Total Environment*, 240, 157-169., at 160 (citing example of Costa Rican KLINKI Activities implemented jointly/joint implementation project) in Costenbader. J. 2011. REDD+ benefit sharing: a comparative assessment of three national policy approaches. FCPF Facility & UN-REDD Programme.

⁶⁷ Keliang. Z. Vhugen. D. Hilgendorf. N. 2010. Who owns carbon in Rural China? An analysis of the Legal Regime and Practices with Preliminary Policy Recommendations. RRI-RDI, Washington D.C.

ii- Recommendations

A future legal framework should seek to define carbon rights building into existing laws and natural resources institutional frameworks. These frameworks should foster decentralization processes, seek to strengthen stakeholder participation in decision-making, expand the role of civil society groups, while recognizing indigenous peoples and local rights on carbon.

A future legal framework must also integrate and be adaptive to new developments while harmonizing with indigenous/traditional knowledge systems and local practices.

To that end, the following aspects should be considered in Asia-Pacific:

- More clarity is needed in the interpretation of carbon rights to enhance trust among the actors involved in REDD+ schemes. This includes not only substantive rights (e.g. to carbon, sale of credits) but also procedural rights, rights to the consultation process and building trust⁶⁸.
- Clarify whether a dispute resolution mechanism is accessible for resolving stakeholder conflicts related to benefits derived from carbon sequestered.
- Need for the governments to consider how best to regulate forest carbon rights to avoid carbon cowboys' interferences.
- Clarify carbon ownership under different tenure instruments.
- Clear, legal benefit-sharing agreements are necessary prior to define carbon rights and "recipients" should be directly involved in deciding the benefits they will receive.
- Support a rights-based approach to define carbon rights.
- Ensure equitable secure and sustainable benefit-sharing, linked to ownership on carbon.
- Recognize people's rights to free, prior and informed consent in establishing carbon ownership rights.

In some countries, payment towards environmental schemes is already in place (e.g. water services) but the link with REDD+ is not apparent, nor is the role of the government clear⁶⁹. PES schemes can nevertheless be considered as a reference to develop PES linked to forest carbon sequestration activities.

⁶⁸ REDD-net. 2010. Carbon rights in REDD+: towards a common understanding. REDD-net.

⁶⁹ M.Munez. CoDeREDD, Philippines.

References

- Chiagas.** T. 2010. Forest carbon rights in Brazil. REDD-net.
- Chomitz.** K. et al. 1998. Financing environmental services: The Costa Rican experience and its implications. Science of the Total Environment.
- Costenbader.** J. 2011. REDD+ benefit sharing: a comparative assessment of three national policy approaches. FCPF Facility&UN-RED Programme.
- FAO** 2010a. **Asia-Pacific Forestry Commission.** Southeast Asian forests and forestry to 2020. Subregional report of the second Asia-Pacific forestry sector outlook study. FAO-Bangkok.
- FAO.** 2010b. Pescott. M.J. Durst. P.B, Leslie. R.N. Forest law enforcement and governance: progress in Asia and the Pacific. FAO-Bangkok (Thailand).
- FAO** 2010c. Yasmis.Y, Broadhead.J. Enters.T and Genge.C. Forest policies, legislation and institutions in Asia and the Pacific. Trends and emerging needs for 2020. Asia-Pacific Forestry Sector Outlook Study II. FAO-Bangkok.
- FAO.** 2004a. Rosenbaum, K.L.,. Schoene. D., Mekouar. A.. Climate change and the forest sector. Possible national and subnational legislation..
- FAO.** 2004b. **Forest Resources Assessment** (FRA). FAO-Rome.
- Jingyun.** F. **Zhaodi.** G. 2007. Calculation of Carbon Amount for Land-covering Trees and Vegetation in China during 1981-2000. China Sciences: Earth sciences. Vol. 37(6), p804-812.
- Keliang .Z. Vhugen. D. Hilgendorf. N.** 2010. Who owns carbon in rural China? An analysis of the legal regime and practices with preliminary policy recommendations. RRI. Washington D.C.
- Kissinger** G. 2011. Linking forests and food production in the REDD+ context. CCAFS Working Paper no. 1. CGIAR Research Program on Climate Change, Agriculture and Food Security (CAAFS). Copenhagen, Denmark.
- LaViña.A. Lynch. O.J.** 2010. REDD Lights: who owns the carbon in forests and trees? Carbon ownership as the basis of social accountability: The case of Philippines.
- Mahanty. S. Guernier. J.** 2008. A Fair Share: Sharing the benefits and costs of community-based forest management. Understanding the Benefits of the Commons.
- Melissa.I.** 2010. The Legal System for the Implementation of Forest Carbon Schemes within REDD+ Projects in Indonesia: Will it secure property rights? University of Padua. Faculty of Agriculture. Departments of Land and Agro-forestry Systems.
- REDD-net.** 2010. Carbon rights in REDD+: towards a common understanding. REDD-net.
- Ring.** I. et al. 2010. Biodiversity conservation and climate mitigation: what role can economic instruments play? Current Opinion in Environmental Sustainability. ScienceDirect.
- Rudel.** T.K. et al. 2005. Forest transitions: towards a global understanding of land use change. Global Environmental Change.

Streck. C. 2008. Climate Change and Forests: Emerging policy and market opportunities. Washington, DC: Brookings Institution.

Suzuki. R. 2011. REDD-Net Bulletin for Asia-Pacific. Carbon rights and REDD+. 2011.

Von Amsberg. J. **Sack.** A. **Ahuja.** P. **Fengler.** W. **Shrader.** **Magdi Amin.** H. 2006. Country partnership strategy for Indonesia 2009-2010. Investing in Indonesia's Institutions for inclusive and sustainable development. Siteresources. The World Bank.

Legislation Cited

Australia

Conveyancing Act NSW 1919 - 87A
 Forestry Act - Queensland (1959) - (reprinted n. 71 in 2011)
 Forestry Rights Registration Act - Tasmania (1990)
 Forestry Rights Act - Victoria (1996)
 Carbon Rights Act - WA (2003)
 Forest Property Amendment Act - SA (2006)

Cambodia

Law on the establishment of the Ministry of Agriculture, Forestry and Fisheries - MAFF (0196/01-1996)
 Law on the establishment of the Ministry of Environment (0196/01-1996)
 Land Law (0801/14-2001)
 Forestry Law (0802/016-2002)
 Law on protected areas (0208/007-2008)

Decree-Law on Forest Management (35-1988)
 Sub-Decree on State Land Management (118-2005)
 Sub-Decree on forest concession management (005-2005)
 Sub-Decree No. 35 on creation of a National Committee for Managing Climate Change (2006)
 Sub-Decree on the Organization and Function of MAFF(18849-2008)
 Sub-Decree on the organization and function of MAFF (18849-2008)

China

Environmental Protection Law of P.R.C. (22-1989)
 The Forestry Law of the People's Republic of China (219-1984)
 The Rural Land Contracting Law (73-2002 - RLCL)
 Land Administration Law of the People's Republic of China (300-2004)
 Law of People's Republic of China on Property Right (62-2007)

Indonesia

The 1945 Constitution of the Republic of Indonesia – last amended in 2002.
 The Act on forestry affairs (41-1999)
 Papua's Special Autonomy Law (21-2001)
 Basic Agrarian Law (5-1960)
 Ministry of Finance (2009). Green Paper: Economic and Fiscal Policy Strategies for Climate Change Mitigation in Indonesia.
 Ministry of Forestry (2009). Regulation regarding procedures for licensing of commercial utilization of carbon sequestration and storage in production and protected forests (p.36/Manhut-II/2009).

Nepal

The Interim Constitution of Nepal (2063-2007)
 Forest Act (2049-1993)

New Zealand

Forests (Permanent Forest Sink) Regulations (SR 354-2007)

Forestry Rights Registration Act (42-1983 – consolidated version of 2006)

Papua New Guinea

The Forestry Act (30-1991 – consolidated version of 2006)

Forestry Regulations (3-1998 – consolidated version of 2006)

The Philippines

The Revised Forestry Code (PD 705-1975)

The Local Government Code (RA 7160-1991)

The National Integrated Protected Areas System Act (RA 7586-1992)

The Indigenous Peoples Rights Act (RA 8371-1997)

The Climate Change Act (RA 9729-2009)

Executive Order on REDD+ (881-2010)

Executive Order on Promoting Sustainable Forest Management (318-2004)

Vanuatu

Forestry Rights Registration and Timber Harvest Guarantee Act (28-2000)

Land Leases Act (chapter 163-1988)

Vietnam

The law on forest protection and development (25-2004)

Land law (13-2003)

Decree on Payment for environmental services (99-2010)

Decision on Objectives, Tasks, Policies and Organization for the Establishment of Five Million Hectares Reforestation Programme (661-98)

Decision on forestland allocation to individual households and local communities of the ethnic minorities in the Central Highlands (304-2005)