

**DEVELOPING A MULTI-LEVEL GOVERNANCE
FRAMEWORK FOR SUSTAINABLE FOREST LANDSCAPES:
THE PROSPECTS FOR REDD-PLUS**

MATTIA FOSCI, LL.M

**Thesis submitted to the University of Nottingham
for the degree of Doctor of Philosophy**

March 2014



Abstract

This dissertation is a grounded theoretical analysis of the REDD-plus programme, the multi-level system of forest governance that is being developed since 2007 under the international legal regime on climate change. It examines REDD-plus' main elements, seeks to preliminarily assess its likely impact and suggests measures to improve its design. The focus is on effectiveness, intended as the ability to address the causes of forest loss in developing countries. The research is divided in two parts. The first part concentrates on REDD-plus at the international level. It explores the programme's innovative but still fragmented and contradictory use of 'policy approaches' and 'positive incentives', and assesses its strengths and weaknesses in the context of the broader trend towards the 'neo-liberalisation' of international environmental policy. The second part examines REDD-plus at the national and sub-national levels. It uses sustainable landscape governance as the overarching conceptual and physical framework for the effective implementation of REDD-plus activities and suggests three areas of public policy that should be prioritised by participant countries: tenure, spatial planning and financial intermediation. The dissertation examines each policy area in detail and provides specific recommendations on the measures available to overcome current problems. It argues that the programme's effectiveness would be magnified by combining public policy and market instruments in such a way as to facilitate the negotiation of trade-offs between multiple environmental and development objectives and between diverse stakeholders. Building on this analysis, the conclusions advance some considerations on the possible significance of REDD-plus for the development of international environmental law.

Acknowledgements

I would like to express my special appreciation and gratitude to Professors Peter Davies and Michael Bowman for believing in my capacity to undertake this ambitious research project, for their insightful contributions and constant encouragement, and for inspiring me to continue my studies at the University of Nottingham in the first place: in many ways, I would not be here if it were not for you. I owe heartfelt thanks to Beverley Roberts, Jo Bailey, Danielle Sinclair, Helen Wade, Joanna Grabowski and the rest of the Law School staff for their invaluable help and support with all non-academic matters related to my research. Very special thanks go to Jefferson Mecham, José DeCoux, Bernardo Ortiz, Dr Mika Peck and all my friends and colleagues in Ecuador, whose work and expertise have greatly contributed to my understanding of the problems analysed in this thesis, and to the thesis itself: I am proud to have been part of your team. I also owe a great debt of gratitude to Francesca, who endured my long nights of sleepless work and endless typing, and my days of laborious thinking, mind-wandering and stern silence; to the friends I shared a house with in these three and a half years, for making me feel at home; to all my PhD colleagues and friends for making the office a beautiful place to work at; and of course to my family, particularly my mother Patrizia, whose love and support are always greater than the physical distance that separates us. Many other people would deserve to be acknowledged here and to them too goes my gratitude. For the amount of paper used in the production of this work, I also acknowledge the trees.

Table of Contents

ABSTRACT	I
ACKNOWLEDGEMENTS	II
TABLE OF CONTENTS	III
LIST OF TABLES	VI
LIST OF FIGURES	VI
LIST OF ACRONYMS	VII
1. INTRODUCTION	1
1.1. BACKGROUND TO THE RESEARCH: CLIMATE CHANGE AND FORESTS.....	1
1.2. OBJECTIVES, METHODS AND RELEVANCE OF THE RESEARCH	7
1.2.1. <i>Research objectives</i>	7
1.2.2. <i>Analytical approach and methodology</i>	9
1.2.3. <i>Theoretical contribution and relevance</i>	13
PART I - UPROOTING DEFORESTATION: THE TWO-TRACK APPROACH OF INTERNATIONAL REDD-PLUS	15
2. ECONOMIC CAUSES OF FOREST LOSS AND DOMESTIC RESPONSES	17
2.1. THE ECONOMIC DRIVERS OF FOREST LOSS	17
2.1.1. <i>Proximate economic causes of deforestation</i>	18
2.1.2. <i>Proximate economic causes of forest degradation</i>	24
2.1.3. <i>The indirect drivers of forest loss</i>	28
2.2. THE ‘POLICY ELEMENT’ OF FOREST LOSS: POOR GOVERNANCE IN DEVELOPING COUNTRIES	31
3. DEFORESTATION IN INTERNATIONAL ENVIRONMENTAL LAW: REDD-PLUS AND THE RISE OF INCENTIVES INSTRUMENTS	43
3.1. FORESTS IN INTERNATIONAL ENVIRONMENTAL LAW: TURNING TO THE MARKET?	43
3.2. THE INTERNATIONAL REGULATORY FRAMEWORK FOR REDD-PLUS: THE PROVISION OF ‘POSITIVE INCENTIVES’	51
3.2.1. <i>Forests in the Kyoto Protocol</i>	51
3.2.2. <i>REDD-plus: objective and approach</i>	53
3.2.3. <i>Options for the generation and delivery of REDD-plus finance at the international level</i>	57
3.3. THE LIMITS OF ‘POSITIVE INCENTIVES’ AND THE ROLE OF ‘POLICY APPROACHES’	62
4. SUPPORTING NATIONAL GOVERNANCE IN INTERNATIONAL REDD-PLUS	71
4.1. IMPROVING DEVELOPING COUNTRY GOVERNANCE: LEGAL GUIDANCE FROM THE COP	71
4.1.1. <i>General guidance</i>	72

4.1.2. <i>The safeguards</i>	72
4.1.3. <i>Conditions to access results-based payments</i>	78
4.1.4. <i>Drivers</i>	79
4.1.5. <i>The significance of the COP Decisions</i>	80
4.2. INFLUENCING NATIONAL POLICY THROUGH OPERATIONAL GUIDANCE: REDD-PLUS READINESS	83
4.2.1. <i>The multilateral readiness process</i>	84
4.2.2. <i>Key documents in readiness practice</i>	88
4.2.3. <i>The contribution of the readiness process</i>	91
4.3. CHALLENGES AND NEW APPROACHES IN DOMESTIC IMPLEMENTATION.....	98
4.3.1. <i>Political challenges to governance reform</i>	98
4.3.2. <i>Future prospects for REDD-plus: from forests to landscapes?</i>	103
PART II - THE NATIONAL AND SUBNATIONAL LEVELS OF REDD-PLUS: POLICY CATALYSTS FOR IMPROVING DOMESTIC GOVERNANCE	107
5. BUILDING LEGALITY THROUGH TENURE SECURITY	109
5.1. THE LINK BETWEEN ILLEGALITY AND TENURE IN TROPICAL FORESTS	109
5.1.1. <i>Illegality, forest loss and existing international responses</i>	109
5.1.2. <i>Tenure, illegality and REDD-plus</i>	114
5.2. DOMESTIC MEASURES TO SECURE TENURE.....	124
5.2.1. <i>Review and complete the regulatory framework</i>	124
5.2.2. <i>Review duration, withdrawal and restriction of rights</i>	127
5.2.3. <i>Build human and technical capacity to clarify and demarcate titles</i>	129
5.2.4. <i>Simplify the regularisation process</i>	132
5.2.5. <i>Provide access to justice</i>	134
5.2.6. <i>Improve law enforcement</i>	138
5.3. THE INTERNATIONAL DIMENSION OF TENURE REFORMS	141
6. SPATIAL PLANNING FOR SUSTAINABLE LANDSCAPES IN REDD-PLUS.....	151
6.1. THE CONCEPT AND CHARACTER OF SPATIAL PLANNING	151
6.1.1. <i>Definition and interpretations</i>	151
6.1.2. <i>Principles of good spatial planning</i>	156
6.2. ACHIEVING SUSTAINABLE LANDSCAPE GOVERNANCE USING SPATIAL PLANNING	160
6.2.1. <i>Spatial planning as a technical exercise to tackle the drivers</i>	160
6.2.2. <i>Planning as a political tool for improved decision-making</i>	169
6.3. BENEFITS OF SPATIAL PLANNING FOR REDD-PLUS	174
6.4. AVENUES TO IMPROVE SPATIAL PLANNING IN DEVELOPING COUNTRIES	182
7. MANAGING REDD-PLUS INCENTIVES: THE NATIONAL FINANCIAL INFRASTRUCTURE	193

7.1. SHARING THE BURDEN: GOVERNING REDD-PLUS FINANCE AT THE NATIONAL AND INTERNATIONAL LEVELS	194
7.2. THE RISE OF THE NATIONAL FUND	198
7.3. BEST PRACTICES FOR THE NATIONAL REDD-PLUS FUND’S DESIGN	203
7.3.1. <i>Desirable qualities of the national fund</i>	203
7.3.2. <i>Targeting the delivery of financial support</i>	210
7.4. GREEN FINANCE FOR SUSTAINABLE LANDSCAPE GOVERNANCE: A PROPOSAL	222
8. CONCLUSIONS	233
8.1. AN EMERGING MODEL OF INTERNATIONAL GOVERNANCE	234
8.2. A POSSIBLE SKELETAL STRUCTURE FOR DOMESTIC GOVERNANCE	242
8.3. CONCLUDING REMARKS	247
ANNEX A: READINESS PREPARATION IN 35 COUNTRIES WITH HIGHEST DEFORESTATION	253
ANNEX B: PUBLIC GOVERNANCE IN THE SAMPLED COUNTRIES	255
ANNEX C: SUMMARY ASSESSMENT OF READINESS DOCUMENTS	263
BIBLIOGRAPHY	273

List of Tables

Table 1: Summary of the main causes of forest emissions	28
Table 2: Ecosystem services provided by forests	44
Table 3: Bundle of tenure rights over land and natural resources	116
Table 4: Summary of challenges and possible solutions	141
Table 5: Drivers of deforestation and policies hindering and enabling change	180
Table 6: Financial instruments for the delivery of REDD-plus incentives	214
Table 7: A revised interpretation of the phased approach	240
Table 8. Deforestation rates and readiness in 35 developing countries	253
Table 9: Worldwide Governance Indicators 2010	259
Table 10: Institutional capacity: the World Development Indicators 2013	260
Table 11: Measures of corruption and transparency	261
Table 12: Political risk of doing business	262
Table 13: Assessment of 19 Readiness Preparation Proposals	263
Table 14: Assessment of six FIP Investment Plans	267
Table 15: Assessment of five national REDD-plus strategies	279

List of Figures

Fig. 1: Tropical forest tenure in 2008 (Global and Regional)	118
Fig. 2: The organisational structure of the National Financial Infrastructure	231
Fig. 3: Policy catalysts for sustainable forest landscapes under REDD-plus	243

List of Acronyms

AAU	Assigned Amount Units
BEI	Banking Environment Initiative
CBD	United Nations Convention on Biological Diversity
CDM	Clean Development Mechanism
CER	Certified Emission Reduction
CGF	Consumers Global Forum
CITES	Convention on International Trade in Endangered Species
COP	Conference of the Parties
CPI	Corruption Perception Index
DRC	Democratic Republic of Congo
ECR	Euromoney Country Risk
EFI	European Forest Institute
EIA	Environmental Impact Assessment
ERU	Emission Reduction Unit
ETS	Emission Trading Scheme
EU FLEGT	European Union Forest Law Enforcement Governance and Trade
FAO	Food and Agricultural Organisation of the United Nations
FCPF	Forest Carbon Partnership Facility (World Bank)
FIP	Forest Investment Programme
FLEG	Forest Law Enforcement and Governance (World Bank)
FPIC	Free Prior and Informed Consent
GCF	Green Climate Fund
GDP	Gross Domestic Product
GEF	Global Environmental Facility
GII	Global Integrity Indicators
GIS	Geographic Information System

GPS	Global Positioning System
ICRG	International Country Risk Guide
IIRSA	Integration of the Regional Infrastructure of South America
ILO	International Labour Organisation
IPCC	Intergovernmental Panel on Climate Change
ITTA	International Tropical Timber Agreement
ITTO	International Tropical Timber Organisation
IUCN	International Union for the Conservation of Nature
JI	Joint Implementation
MEA	Multilateral Environmental Agreement
MRV	Monitoring Reporting and Verification
NFI	National Financial Infrastructure
NGO	Non-Governmental Organisation
ODA	Official Development Assistance
ODI	Overseas Development Institute
OECD	Organisation for the Economic Co-operation and Development
PES	Payment for Environmental Service
PNG	Papua New Guinea
PPP	Public-Private Partnership
R-PP	Readiness Preparation Proposal
RRI	Rights and Resource Institute
SEA	Strategic Environmental Assessment
UNCCD	United Nations Convention to Combat Desertification
UNCED	United Nations Conference on Environment and Development
UNCHE	United Nations Conference on the Human Environment
UNDP	United Nations Development Programme
UNDRIP	United Nation Declaration on the Rights of Indigenous Peoples

UNECE	United Nations Economic Commission for Europe
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UNFF	United Nations Forum on Forests
UNGA	United Nations General Assembly
UN-REDD	United Nations REDD Programme
VPA	Voluntary Partnership Agreement
WDI	World Development Indicators
WGI	World Governance Indicators
WMO	World Meteorological Organisation
WRI	World Resource Institute

Introduction

1.1. Background to the research: climate change and forests

There is overwhelming scientific consensus that anthropogenic emissions of ‘greenhouse gases’¹ are rapidly warming the atmosphere and changing the global climate.² Although the exact consequences of such warming are still uncertain, climate change is considered one of the greatest environmental problems humans have ever faced. A United Nations report has raised the alarm over five climate-induced threats: to territorial integrity from rising sea levels; to human well-being due to reduced water and food availability; to economic development due to the impact of extreme weather events on agricultural production and infrastructures; to peace and security due to the increasing inter-state tensions caused by climate-related stress; and to international cooperation in managing scarcer shared resources.³ In order to prevent the most extreme impacts, scientists suggested that global emissions will have to decline by 25-40 percent by 2020 and by 80-90 percent by 2050 in developed countries, while developing countries must achieve a

¹ Greenhouse gases are: water vapour (H₂O), carbon dioxide (CO₂), nitrous oxide (N₂O), methane (CH₄), and ozone (O₃). Additionally, synthetic gases used in industrial production (such as chlorofluorocarbons CFCs and hydrofluorocarbons HFCs) also contribute to the greenhouse effect, albeit to a more limited extent. Greenhouse gas emissions are commonly, albeit incorrectly, dubbed ‘carbon emissions’ to indicate the most important of warming gases (carbon dioxide). This thesis will adopt this lexicon despite its lack of scientific rigour.

² Since the start of the industrial era in 1750, the global average concentration of carbon dioxide in the atmosphere has increased by forty-one percent, while that of methane and nitrous oxide by one-hundred-sixty percent and twenty percent respectively. WMO, ‘Greenhouse Gas Concentrations in Atmosphere Reach New Record’ *WMO Media Centre* (Geneva, 6 November 2013) <www.wmo.int/pages/mediacentre/press_releases/pr_980_en.html> Accessed 7 February 2014.

³ Report of the Secretary-General ‘Climate Change and its possible security implications’ (2009) UN Doc A/64/350.

‘substantial deviation’ from their baseline emissions.⁴ Given the transboundary nature of the problem, it was felt that a coordinated international response was needed to spur and regulate the unprecedented changes needed in virtually all sectors of economic activity.

Scientific understanding of global warming emerged as early as the 1970s,⁵ and the 1980s saw a number of international conferences organised to discuss the political implications of the problem and set the stage for a coordinated international response.⁶ In 1988 the United Nations Environment Programme (UNEP) and the World Meteorological Organisation (WMO) established the Intergovernmental Panel on Climate Change (IPCC) to lead scientific assessments on climate change and its impacts, with a view to formulating response strategies.⁷ In 1992, 165 countries signed the United Nations Framework Convention on Climate Change (UNFCCC, also ‘the Convention’), a multilateral environmental agreement (MEA) aimed at “[stabilizing] greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”⁸ The Convention commits Parties to take action to reduce or limit the increase of their emissions, albeit “taking into account their common but differentiated responsibilities and their specific national and regional development priorities, objectives and circumstances”.⁹

⁴ These figures are associated with a temperature increase of around two degrees Celsius (2C), which is considered ‘safe’. IPCC, *Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (CUP 2007) 776.

⁵ WMO, Declaration of the World Climate Conference (1979) UN Doc ICO/SAB-IV/INF.3

⁶ WMO ‘Report of the International Conference on the Assessment of the Role of Carbon Dioxide and of Other Greenhouse Gases in Climate Variations and Associated Impacts’ (Villach, Austria, 9-15 October 1985) WMO No.661; World Conference on the Changing Atmosphere: Implications for Global Security (Toronto, 27–30 June 1988); ‘Noordwijk Ministerial Conference on Climate Change’ (Noordwijk, The Netherlands, 6-7 November 1989).

⁷ The mandate of the new body was outlined in UNGA Res 43/53 (6 December 1988) UN Doc A/RES/43/53.

⁸ United Nations Framework Convention on Climate Change (adopted in Rio de Janeiro on 9 May 1992, entered into force 31 March 1994) 1771 UNTS I-30822, article 2.

⁹ *Ibid* article 4(1), and article 3(1). This provision creates differential obligations between developing and developed countries, the latter being recognised as having historical responsibility for climate change as well as more capability to reduce its impact.

Among the various sources of emissions, deforestation is the second largest contributor after fossil fuel combustion.¹⁰ This thesis looks at the emerging legal framework to reduce forest emissions in the context of climate change mitigation. Forests contain 652 billion tons of carbon¹¹ which, if cut, would release the equivalent of 500 years of emissions at current levels.¹² During the 1980s and 1990s, 16 million hectares of forests were lost annually, of which over 15 million were in developing countries.¹³ Forest loss decreased to 13 million hectares per year in the 2000s (an area roughly the size of England),¹⁴ contributing an estimated 12-18 percent to global emissions.¹⁵ ¹⁶ Despite the little space given to forest emissions in international discussions,¹⁷ the UNFCCC called on Parties to promote the “sustainable management, conservation and enhancement of sinks and reservoirs of

¹⁰ Forests act as ‘sinks’, i.e. they remove carbon dioxide from the atmosphere and transform it into sugars through photosynthesis. By contrast, when forests are felled or burned, much of the carbon trapped in their biomass is released back to the atmosphere in the form of carbon dioxide. The IPCC concluded that in some cases the sustainable management of forests, based on the selective removal of grown trees and the retention of the carbon they contain in durable timber products, could keep forest growing at a higher rate, thus sequestering more carbon from the atmosphere than unmanaged forests and achieving a net mitigation benefit. However, this is not the case with conventional forest management, in which only a fraction of the removed biomass ends up in durable forest products while the rest is burned or ends up in products with a short life-cycle (such as paper). IPCC (n 4) 551.

¹¹ This includes the carbon stored in biomass, dead wood and soil; FAO, *Global Forest Resource Assessment 2010* (FAO 2010) 45. The atomic weight of the solid element carbon (C) is 12 atomic mass units, while the weight of the gas carbon dioxide (CO₂) is 44, because it includes two oxygen atoms that each weighs 16. Therefore the conversion rate of C to CO₂ is 3.67 ($44/12 = 11/3 = 3.67$).

¹² Global forest loss would release almost 2.4 trillion tons of carbon dioxide in the atmosphere. Current levels are estimated to be just above forty-six billion tons of carbon dioxide equivalent (tCO₂e) per year; ‘CAIT 2.0 beta: WRI’s climate data explorer’ (WRI 2014) <<http://cait2.wri.org>> Accessed on 11 November 2013.

¹³ FAO, *Forest Resource Assessment 1990, Global Synthesis* (FAO 1995); FAO (n 11).

¹⁴ FAO (n 11) 3-4.

¹⁵ The IPCC Fourth Assessment Report uses an estimate of around 20 percent of total GHG emissions, whereas a previous report commissioned by the UK government used a figure of 18 percent. A more recent study lowered the amount to 12 percent or 15 percent including peat degradation. See Stern, *Stern Review: The Economics of Climate Change* (CUP 2007); IPCC (n 4); Van der Werf et al, ‘CO₂ emissions from forest loss’ (2009) 2 *Nature Geoscience* 737-8; Baccini et al, ‘Estimated carbon dioxide emissions from tropical deforestation improved by carbon-density maps’ (2012) 2 *Nature Climate Change* 182.

¹⁶ The above estimates do not include the carbon dioxide removed from the atmosphere, which could be twice as much as that released by deforestation; EPA, *Advancing the Science of Climate Change* (National Academies Press 2010).

¹⁷ The issue was only brought into the discussion at the 1989 Noordwijk Conference, when participating ministers stated their ambition to achieve global net forest growth of 12 million hectares per year, but it was side-lined in the negotiations leading the adoption of the UNFCCC.

all greenhouse gases, including biomass [and] forests”.¹⁸ However, the Convention lacked legally binding obligations to reduce emissions by a specified amount and was therefore largely ineffective in this particular respect.¹⁹

This shortcoming was partly remedied five years later when the third meeting of the Conference of the Parties to the Convention (COP 3)²⁰ adopted the Kyoto Protocol (‘the Protocol’).²¹ The Protocol set quantified emission limitation and reduction targets to be achieved by 2012, but the agreed cap on emissions was not in line with scientific requirements:²² Not only were emission reduction targets too low, but key polluters were not obliged to make specific emission reductions: the United States did not ratify the treaty²³ and developing countries (including emerging economies such as China, Brazil and India) were exempted from timetabled reduction commitments.²⁴ Targets could be met by accounting for the “net changes in emissions resulting from afforestation, reforestation and deforestation activities”,²⁵

¹⁸ UNFCCC (n 8) article 4(1)(d).

¹⁹ *Ibid* article 4(2)(b); developed countries merely “aim of returning individually or jointly to their 1990 levels of emissions”, which is a ‘toothless’ obligation.

²⁰ Pursuing to UNFCCC article 7, the COP was established as the supreme body of the Convention with the main objectives of reviewing implementation and further adopting the decisions and instruments necessary to promote effective implementation.

²¹ Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entered into force 16 February 2005) 37 ILM 22.

²² *Ibid*, article 3(1). The Kyoto Protocol requires the Parties listed in Annex I to reduce their national emissions by the amount listed in Annex B. These Parties include the EU, Eastern Europe and Russia, Canada, Australia, Japan and New Zealand. Annex I Parties had to collectively reduce their emissions by “at least 5 percent below 1990 levels in the commitment period 2008 to 2012”. This is not in line with the current IPCC requirements; IPCC (n 4).

²³ The US, then the largest global polluter, was a signatory of the Kyoto Protocol but did not ratify it because of competitiveness concerns.

²⁴ This was decided pursuing the principle of common but differentiated responsibilities and respective capabilities enunciated in article 3(1). Such principle recognises that developing nations are least responsible for climate change and least able to reduce their emissions without unduly impairing their development process. It is thus concerned with an equitable distribution of burdens across the international community and provides the legal justification for the adoption of asymmetric obligations between developing and developed countries.

²⁵ Kyoto Protocol (n 21) article 3(3).

but the exclusion of developing countries meant that no real action to stem global forest loss was required.²⁶

After completing the regulatory framework for the operationalization of the Kyoto Protocol (COP 7, Marrakech, 2001), UNFCCC Parties began discussing a new protocol that would contain stringent caps and involve developing countries. In this context, observers recommended the inclusion of a mechanism to provide financial compensation to developing countries for reducing their deforestation emissions in the new treaty (COP 9, Milan, 2003).²⁷ The idea was well received by both developing and developed countries and at COP 11 (Montreal, 2005) an agenda item on reducing emissions from deforestation in developing countries was officially introduced.²⁸

At COP 13 (Bali, 2007), Parties launched a roadmap for the conclusion of a post-Kyoto instrument at COP 15 (Copenhagen, 2009).²⁹ One of the elements of this new instrument was a programme to reduce emissions from deforestation in developing countries,³⁰ which became known as REDD-plus.³¹ The programme combines two elements: ‘positive incentives’ to encourage voluntary reductions of forest emissions and ‘policy approaches’ to address the complex socio-economic consequences that this entails.³²

²⁶ For instance, aggregate data are of emissions from fossil fuels and land-use change shows that in 2000 Brazil and Indonesia were the 4th and 5th global emitters of GHG due to their high deforestation rates; WRI (n 11).

²⁷ Santilli et al, ‘Tropical deforestation and Kyoto Protocol’ (2005) 71(3) *Climatic Change* 267.

²⁸ Submission from the Governments of Costa Rica and PNG, Reducing emissions from deforestation in developing countries: approaches to stimulate action (2005) UN Doc FCCC/CP/2005/MISC.1.

²⁹ UNFCCC COP Decision 1/CP.13 (2007) UN Doc FCCC/CP/2007/6/Add.1.

³⁰ *Ibid* paragraph 1(b)(iii).

³¹ At COP 11 discussions focused only on ‘reducing emissions from deforestation/RED’. When at COP 13 the Parties realised that forest degradation was an important source of emissions, the second ‘D’ was added to ‘REDD’. It was then recognised that climate benefits also arise from enhancing positive changes and so the ‘plus’ (or ‘+’) was added at COP14 to indicate forest conservation, sustainable management and enhancement of forest carbon stocks.

³² The complete name of REDD-plus is “policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries; and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries”.

While negotiations on REDD-plus proceeded relatively speedily, disagreements about the new emission reduction targets and the contribution of emerging economies proved insurmountable. No new treaty was adopted at the Copenhagen COP, and a complete breakdown of the negotiations was only avoided with a last minute agreement between a subset of prominent countries, called the ‘Copenhagen Accord’.³³ Negotiations continued the following year in Cancun, Mexico, where the Parties reaffirmed most provisions of the Copenhagen Accord and set out the basic building blocks for REDD-plus.³⁴

The following COP meeting (Durban, 2011) added further details to the emerging REDD-plus legal framework and introduced a new roadmap for the conclusion of an ‘instrument with legal force’ by 2015 which should enter into force by 2020 (the ‘Durban Platform’).³⁵ After a year with little progress (Doha, 2012), at COP 19 (Warsaw, 2013) UNFCCC Parties adopted seven decisions on REDD-plus³⁶ which, according to some observers, complete the basic ‘rulebook’ for the programme.³⁷ REDD-plus is therefore on track for adoption by 2015 under the post-Kyoto legal instrument.

³³ The Copenhagen Accord was concluded by the United States and the BASIC countries (Brazil, South Africa, India and China); UNFCCC Draft Decision -/CP.15, Copenhagen Accord (2009) UN Doc FCCC/CP/2009/L.7; the Copenhagen Accord was only ‘noted’ by the Parties: UNFCCC COP Decision 2/CP.15 (2009) UN Doc FCCC/CP/2009/11/Add.1.

³⁴ UNFCCC COP Decision 1/CP.16 (2010) UN Doc FCCC/CP/2010/7/Add.1, paragraph 70.

³⁵ UNFCCC COP Decision 1/CP.17 (2011) UN Doc FCCC/CP/2011/9/Add.1.

³⁶ This set of decisions has been dubbed the ‘Warsaw Framework for REDD-plus Action’; ‘EU welcomes progress on international climate action at Warsaw conference’ *European Commission* (23 November 2013) EC MEMO/13/1044.

³⁷ Zwick, ‘Unpacking Warsaw, Part One: The Institutional Arrangements’ (Forest Carbon Portal, 26 November 2013) <www.forestcarbonportal.com/news/unpacking-warsaw-part-one-the-institutional-arrangements> Accessed 7 February 2014; Lodge, Opinion: COP 19 delivers Warsaw Framework for REDD+ Action (CDKN, 29 November 2013) <<http://cdkn.org/2013/11/cop19-delivers-warsaw-framework-for-redd-action>> Accessed 07 February 2014.

1.2. Objectives, methods and relevance of the research

1.2.1. Research objectives

The plurality of viewpoints that emerged in the development of REDD-plus, its innovative approach and the urgency with which it has been discussed have generated considerable confusion. Against a backdrop of persisting legal indeterminacy, the thesis first addresses the causes of forest loss before exploring the key international elements of the programme. It then provides a preliminary assessment of its likely *effectiveness*, that is, its ability to meet the mitigation objective (consistent with article 2 UNFCCC) and other relevant social and environmental goals.³⁸ Consideration is also given to the programme's *efficiency* (i.e. its costs in absolute and comparative terms) and *equity*,³⁹ but only in relation to their impact on effectiveness.⁴⁰ In addition, it attempts to identify domestic measures to improve effectiveness in implementation, looking at the contribution of State and non-State actors, prescriptive regulations, soft policy approaches and positive economic incentives.

The discussion will be approached using the lenses of governance analysis, governance being intended in a positivistic sense as the formal and informal rules, processes and institutions that determine how authority is exercised in a particular context. REDD-plus exhibits three essential characteristics of a multi-level governance framework⁴¹ in the making:⁴² (i) a vertical (yet non-hierarchical) relation

³⁸ UNFCCC (n 8).

³⁹ Equity is intended substantially (i.e. the distribution of REDD-plus costs and benefits between stakeholders) and procedurally (i.e. the degree of participation and influence of all stakeholders in decisions concerning access to and use of land and natural resources).

⁴⁰ Effectiveness is strictly connected to efficiency for the feasibility of the programme is dependent on the price of emission reductions and removal increases; effectiveness and efficiency are also linked to equity for the unfair distribution of benefits or stakeholder exclusion from decisions will hamper efforts to protect forest carbon, or will greatly increase its cost.

⁴¹ Multi-level governance is a variedly defined concept. Definitions tend to focus on institutions, politics and stakeholder interactions, and the concept is often associated with overlapping ideas of nested governance, polycentric governance, networked governance, multi-perspective governance and others. See, e.g., Newig, Fritsch, 'Environmental Governance: Participatory, Multi-Level – and Effective?' (2009) 19 *Env. Pol. Gov.* 199; Hoochhe, Marks, 'Unraveling the Central State - but How?: Types of Multi-level Governance' (2003) 97(2) *American Political Science Review* 234; Jachtenfuchs, 'Theoretical perspectives on European governance' (1995) 1 *European Law Journal* 115.

between actors operating at different scales; (ii) a decentred mode of social coordination as opposed to the centralised control of the State;⁴³ and (iii) the contextual involvement of non-State actors operating at supranational as well as subnational levels.⁴⁴ These characteristics distinguish REDD-plus from international environmental instruments that are distinctively hierarchical and State-centred. They also mean that the conditions for its effective implementation differ from those of other treaties: the stringency and precision of legal obligations, compliance regime and enforcement measures are less important than the technical, human and material capacity to reduce deforestation in a cooperative fashion. The research considers whether this emphasis on voluntary cooperation and economic incentives fits within the trend towards State marginalisation observed in the context of public administration reforms⁴⁵ or whether, instead, a redefinition of the role of the State in land and natural resource administration is simultaneously more likely and more desirable.

The analysis will be divided in two parts. Part I focuses on REDD-plus' international legal framework, where the basic elements and principles of the programme are developed. Part II focuses on the domestic (i.e. national and subnational) levels of governance, since it is in this domain that REDD-plus strategies and regulatory choices are mostly made.⁴⁶ This multi-level focus permits examination of the interaction between governance levels. Rather than considering what domestic regulatory frameworks are needed to implement international obligations, it asks what governance arrangements are most effective at the domestic level and how the international legal framework can support their development.

⁴² Skutsch, Van Laake, 'REDD as multi-level governance in-the-making' (2008) 19(6) *Energy & Environment* 831.

⁴³ Kemp, Parto, Gibson, 'Governance for sustainable development: moving from theory to practice' (2005) 8(1-2) *Int. J. Sustainable Development* 12, at 17.

⁴⁴ Papadopoulos, 'Problems of democratic accountability in network and multilevel governance' (2007) 13(4) *European Law Journal* 469, at 469.

⁴⁵ Rhodes, 'The Hollowing Out of the State' (1994) 65 *Political Quarterly* 138.

⁴⁶ Brockhaus, Di Gregorio, Mardiah, 'Governing the design of national REDD+: An analysis of the power of agency' (2013) *For Pol & Eco* (in press) at 2 <DOI: <http://dx.doi.org/10.1016/j.forpol.2013.07.003>>.

Text box 1.1 summarises the three main objectives of inquiry of this thesis in the form of research questions set out in logical succession.

Box 1.1: Research objectives and research questions

Objective 1: Critically analyse the distinctive elements of REDD-plus as a multi-level governance framework.

- 1a) What are the characteristics of REDD-plus vis-à-vis previous international efforts to halt deforestation? Why has the programme developed in such way?
- 1b) How does this approach configure relationships across levels of governance and between stakeholders?

Objective 2: Identify and systematise the regulatory and institutional conditions that are most likely to ensure the effective implementation of the programme at various governance levels.

- 2a) What are the necessary (but not necessarily sufficient) conditions to achieve a substantial reduction in forest emissions and other social and environmental benefits?
- 2b) What area(s) of domestic policy, if any, should REDD-plus prioritise in this phase of its development?

Objective 3: Gain insight on the role of State and markets in multi-level environmental governance.

- 3a) What should the role of the State be vis-à-vis supranational and subnational actors to improve the effectiveness of multi-level systems of environmental governance?
- 3b) How, if at all, can prescriptive and market-based regulatory instruments be best combined in such systems?

1.2.2. Analytical approach and methodology

The research adopts an institutionalist perspective which focuses on the formal regulatory and institutional elements of environmental governance as opposed to sociological aspects such as discourses, actors and power relationships. Regulations and institutions create the structural conditions for REDD-plus implementation. By contrast, actors, power relationships and cultural factors – i.e. the social context within which the programme operates - are considered only for their influence on the establishment and operation of formal structures.⁴⁷ The rationale is that REDD-plus directly affects only institutions, regulations and decision-making processes

⁴⁷ For a recent analysis of these governance dimensions in the domestic REDD-plus context see the paper by Brokhaus et al (n 46).

(domestic and international) which in turn influence power distribution across society and, to a lesser extent, social and cultural norms.

Secondly, the research uses a positivist conception of the law as a social construct: it thus separates the inquiry into the law and legal systems from that into the moral appropriateness of such law. Instead of using broad moral categories, regulatory instruments are assessed according to the internal parameters defined by the legal regime in which REDD-plus operates. This is reflected in the choice, of utilitarian inspiration, to privilege effectiveness over equity considerations.

Finally, with regards to international law, the thesis uses a liberal interpretation of regime theory which assumes (a) that international legal regimes can affect the behaviour of States and non-State actors, and (b) that cooperation is driven by a convergence of expectations and interests by States and, secondarily, by non-State actors.⁴⁸

A multidisciplinary approach is used to deal with the inherent complexity of land use and forest management issues, drawing on disciplines such as law, economics, governance studies and land use planning. This is necessary to gain a holistic understanding of the regulatory and organisational measures that are most likely to meet the effectiveness objective as defined in section 1.2.1. A reductionist approach that confines the investigation to within the boundaries of a discrete discipline is unlikely to generate such understanding. As made clear in chapter 2, in fact, reducing forest loss and related emissions is a management problem whose solution builds on the redefinition of development goals and practices and on the contextual establishment of regulatory and institutional structures that are fit for purpose. Identifying effective approaches (e.g. in the form of best practices) must therefore take a multidisciplinary perspective that sheds light on the economic, social and organisational implications of discrete policy and regulatory choices.

⁴⁸ However, the thesis departs from regime theory on one fundamental point: States are concerned not only with the absolute gains derived from cooperation but also, to a large extent, with comparative gains and losses. This is abundantly clear in the contraposition between the US and China over the respective contributions to climate change mitigation and the American discourse over comparative loss of economic competitiveness; G.W. Bush, Letter to Members of the Senate on the Kyoto Protocol on Climate Change, 37 Weekly Comp. Pres. Doc. 444 (13 March, 2001), cited in Kahn, 'The Fate of the Kyoto Protocol under the Bush Administration' (2003) 21(3) Berkeley Journal of International Law 548, at 551.

The methodology chosen to answer the research questions is ‘grounded theory’. The theoretical reasoning is informed by a meta-analysis of (mostly empirical) data gathered from the various disciplines considered, including: field studies (e.g. on stakeholder participation, local governance mechanisms, drivers of forest loss, costs of REDD-plus implementation and so forth), scientific analysis and models (e.g. data on climate change, deforestation etc.), economic analysis (e.g. economic modelling, financial projections of REDD-plus revenues, financial instruments), statistical studies (e.g. on tenure distribution, planning capacity, crime) and questionnaire-based or desk-based assessments of governance (e.g. planning techniques, qualitative analysis of illegality and corruption, multi-level and multi-sector analysis and so on). From June to August 2010 the author undertook empirical research on forest governance, participation and illegality in North-West Ecuador.⁴⁹ Anonymous interviews and observational research provided data on illegal logging, law enforcement and corruption, the factors influencing compliance with environmental regulation,⁵⁰ governance processes and dynamics at community and landscape level and problems affecting participation and sustainability in natural resource management. The information gathered has informed the research but the choice to maintain the focus on higher levels of governance led to the decision not to present the field data as a separate case-study. At this level of discussion, therefore, empirical evidence gathered first-hand is treated no differently from empirical evidence derived from the literature.

A structural analytical approach is used to separate the complex study of multi-level governance into the constituent elements of a simpler solution and the theory is advanced using inductive reasoning. As results achieved via inductive reasoning cannot be proven beyond doubt, the research does not aim to provide conclusive proofs but rather plausible explanations, likely conclusions and logical recommendations. Theoretical insights are gained from the data and their logical inductive development.

⁴⁹ The author was awarded the University of Nottingham BEST Scholarship in January 2010. The scholarship aims to broaden the recipient’s work experience and network of contacts by giving the opportunity to undertake a fully funded collaboration with a reputable organisation, which in this case was IUCN.

⁵⁰ Particularly command-and-control measures such as the creation of protected areas (‘Los Cedros’ and ‘Yasuni’ National Park) and large-scale incentive measures (‘Socio Bosque’ Programme).

The choice of employing grounded theory methodology is based on the following considerations. On the one hand, theoretical reasoning on regulatory instruments and governance must be considered in context and based on evidence if it is to be of any assistance to policy-making. Abstract treatment of these subjects is important in academic debate and increases analytical understanding, but it is not directly applicable to particular cases. On the other hand, empirical research often lacks the comprehensiveness necessary to inform policy making; it is, so to speak, insufficiently theoretical to be applicable across contexts. Grounded theory provides a synthesis between these two approaches which makes the research relevant for decision-making.

The thesis uses a comparative method to assess the social context underpinning REDD-plus implementation in developing countries and the early activities advanced by the programme (chapters 2 and 4). This is however not followed by a critical comparative analysis. Comparative studies are common in REDD-plus literature but they either focus on narrow institutional aspects (e.g. legislation, drivers, power structures and political economies) or they consider a limited number of cases.⁵¹ To identify *patterns* of governance problems and suggest responses for international policy-makers, detailed comparative analysis should be carried out among a large number of countries, possibly grouped in categories (e.g. emerging economies vs least developing countries, high vs low-deforestation countries, democracies vs authoritarian regimes and so forth). Plainly, such analysis is incompatible with the time, work and capacity constraints of this research. The recent multi-year and multi-disciplinary comparative study on REDD-plus undertaken by the Center for International Forestry Research (CIFOR) shows the ambition and complexity of such an undertaking.⁵² For the purpose of this discussion, conceptual research based on critical analysis of evidence-based literature is therefore more appropriate.

⁵¹ See, e.g., Brockhaus et al (n 46); Costenbader (ed.), *Legal frameworks for REDD: Design and Implementation at the national level* (IUCN 2009).

⁵² The study is still underway and no results have been published so far. CIFOR, *The Global Comparative REDD Study Background Paper for the First Research Design Meeting* (Bonn, 11-13 June 2009) <<ftp://ftp.cgiar.org/cifor/BONN/CIFOR%20REDD%20WS%20-%20background%20paper.pdf>> Accessed 7 February 2014; CIFOR, *CIFOR's Global Comparative Study on REDD+, Factsheets on research findings and goals* <www.cifor.org/publications/pdf_files/factsheet/4259-factsheet.pdf> Accessed 7 February 2014.

Finally, it is important to remark that the author took care to avoid a common ‘analytic sin’: to begin the investigation with a solution in mind and thereby to fail consider alternatives fully.⁵³ The thesis set out to prove that the neoliberal approach vigorously advanced in early REDD-plus discussions was ineffective, inefficient and inequitable. In order to address ideological bias, rigour was applied in the selection and analysis of the evidence inducing theoretical reasoning and an open-minded review and critical analysis of the available material caused a remarkable change of heart in many respects.

1.2.3. Theoretical contribution and relevance

This thesis is relevant in two respects. The first is its potential contribution to policy-making. It advances a framework for understanding the recent legal developments (up until December 2013), their implications and their likely impact; it then puts forward some concrete recommendations for the further elaboration of policies and measures to reduce forest loss consistent with such framework. Although, as stated above, the 2013 Warsaw COP decisions are widely claimed to have completed REDD-plus’ basic rulebook, they really only set broad guidance which allows actors operating at lower levels of governance to work out what regulations, institutions and processes could be used in implementation. There is therefore considerable space, within the agreed framework, to incorporate recommendations.

The second contribution of this thesis is theoretical. It stems from the abstraction of certain elements of REDD-plus’ multi-level governance framework that are applicable to other MEAs. It has long been a preoccupation of scholars and practitioners alike to understand at what level decisions regarding natural resource management should be taken: discourses about centralised versus decentralised governance, and top-down versus bottom-up regulation offer fertile theoretical background. In this context, attention will be dedicated to the role of the State (i.e. the national government and its administrative apparatus) vis-à-vis both supranational actors and the subnational actors who rose to prominence with the use

⁵³ Jones, *The Thinker’s Toolkit: Fourteen Powerful techniques for Problem Solving* (Revised edition, Crown Business 1998) xiii.

of incentive instruments. In particular, Rhodes' thesis that multi-level market-based governance hollows out the State will be tested in this particular context.⁵⁴

This theoretical contribution should hopefully make the thesis less vulnerable to obsolescence if, as it is desirable, future meetings of the Parties will further develop the programme and advance its implementation. The rapid and often erratic development of REDD-plus has indeed made this research difficult. For instance, when the research started in 2010, the majority of observers and practitioners still discussed REDD-plus as essentially a carbon-market mechanism, and many still saw it as a collection of forest projects 'nested' into a national or subnational jurisdiction.⁵⁵ Three years later, the focus has shifted onto programmes, public-private partnerships, multiple funding sources, and landscape approaches. Suffice to say that the first meaningful legal text on REDD-plus was only agreed three months after the beginning of this research. Back then, very few of the technical, methodological or social aspects of the programme had been decided upon and 'working assumptions' were used in this thesis only to be, in many cases, disavowed by subsequent legal developments. The research questions have evolved alongside such developments, but so had the attention of scholars and practitioners as substantial funding was made available to investigate topics under discussion in the frantic REDD-plus negotiations. Despite the abundance of legal and policy material now published in this area, however, this research provides an original contribution to the ongoing debate on such topical and important area of international law.

⁵⁴ Rhodes (n 45).

⁵⁵ The nested approach will be explained in chapter 3 section 2.2.

Part I

Uprooting deforestation: the two-track approach of international REDD-plus

The first part of this thesis looks at REDD-plus' international legal framework, exploring its key elements and approach, highlighting its historical evolution and assessing its strengths and weaknesses. Chapter 2 shows that forest loss is caused by economic activities that are inherent to the current development paradigm, but that their environmental impact is also determined by policy choices and by the quality of governance. Chapters 3 and 4 analyse the international legal response to the problem. The economic relevance of the activities driving forest loss frustrated the emergence of a global forest regime and prompted a different approach under REDD-plus. Rather than trying to negotiate legally binding provisions, the programme establishes a framework for voluntary cooperation based on: (a) the provision of 'positive incentives' that challenge the economic rationale of deforestation, and (b) multilateral assistance for the development of 'policy approaches' that address the governance aspects of the problem.

This two-track approach follows a trend towards the use of multi-level governance systems based on economic incentives and market principles that had already made headway in both the forest sector and the climate change regime. Initially, efforts focused on building legal rules for the operation of incentive markets (the 'positive incentives' analysed in chapter 3). Such emerging system of multi-level governance conformed to Rhodes's theory of the 'hollowed-out' State. However, the lack of adequate funding capacity and the need to build a comprehensive regime of forest governance led to the gradual re-evaluation of the role of the State (the 'policy approaches' discussed in chapter 4). REDD-plus tries to establish best practices in domestic governance by using international guidelines and targeted assistance.

Economic causes of forest loss and domestic responses

A detailed analysis of the causes of environmental degradation is a “prerequisite for the selection of the appropriate measure to stop or reverse [it]”.¹ In other words, REDD-plus cannot prescind from the thorough understanding of the actors, mechanisms and dynamics leading to deforestation and forest degradation. Section 3.1 explores how deforestation and forest degradation are driven by the endogenous (domestic) and exogenous (international) demand for timber and agricultural commodities. Section 3.2 argues that the actual impact of the economic drivers is influenced by domestic reactions to endogenous and exogenous pressures, and it shows that developing countries’ performance is poor in this respect.²

2.1. The economic drivers of forest loss

Humans have been systematically clearing forests since the introduction of settled agriculture, and forest loss represented the main source of greenhouse gas emissions until the onset of the industrial revolution. Long considered inhospitable and dangerous places, throughout human history forests were cut for timber to provide construction material and energy, and to make space for new agricultural or grazing land. Deforestation both intensified and expanded in the colonial era, moving increasingly towards remote tropical regions under the pressure to supply products for a growing population and the new markets created by the industrial revolution. The end of colonialism did not put an end to the unequal trade relation between developing and developed countries. The exploitation of the newly independent

¹ CBD, *Proposals for the Design and Implementation of Incentive Measures* (Secretariat of the Convention on Biological Diversity 2004) 3.

² Obviously, international policy also has a major direct impact on the drivers. For example, free trade agreements that open the market to international demand for agricultural and timber commodities can increase pressure on forests. Non-environmental international policies will not be considered in this research.

states' land and resources was perpetuated by these countries' governmental elites often to the benefits of developed countries. With the expansion of agricultural commodity markets that followed from globalisation, the scale of land-use change accelerated dramatically, leaving forest exploitation an important activity in the rural economies of the developing world. This section explores the proximate (or direct) and the underlying (or indirect) economic dynamics of forest loss.

2.1.1. Proximate economic causes of deforestation

Deforestation is defined by the IPCC as both an activity - 'the conversion of forest land to non-forest land' - and a state - 'a decrease in the canopy cover or carbon density by a given amount or crossing one of a sequence of thresholds'.³ The economic drivers of deforestation are qualitatively well known, but much less information is available on their relative impact. REDD-plus treats forest loss as an economic externality caused by the inability of markets to appropriately price the loss of goods and services provided by forest ecosystems.⁴ More precisely, deforestation is driven by economic and social forces operating simultaneously across scales and sectors, and characterised by high geographical mobility and strong periodic fluctuations (usually in response to market signals or policy changes).

A recent empirical study on the impact of drivers⁵ identifies five root causes of deforestation: commercial agriculture, subsistence agriculture, mining, infrastructure and urbanisation. Agricultural colonisation is the main driver, accounting for 73 percent of global deforestation.⁶ It is estimated that between 1990 and 2007, cultivated land expanded by 1.9 million hectares per year and almost entirely in developing nations.⁷ Cropland expansion is concentrated in Sub-Saharan Africa, Latin America, and Southeast Asia, where forests have an agricultural conversion

³ IPCC, *Land Use, Land-Use Change and Forestry* (CUP 2000) 6.

⁴ See chapter 3 section 3.

⁵ Hosonuma et al, 'An assessment of deforestation and forest degradation drivers in developing countries' (2012) 7 *EnvResLett* 1.

⁶ *Ibid* 8.

⁷ Deininger et al, *Rising global interest in farmland: Can it yield sustainable and equitable benefits?* (World Bank 2010) xvii-xviii.

rate three times higher than all other natural landscapes together.⁸ Between 1980 and 2000, over 55 percent of new cropland in tropical regions came at the expense of primary forests,⁹ while another 28 percent replaced secondary forests.¹⁰

Traditionally, forest land use change has been associated with small-scale subsistence agriculture by domestic migrants, which was actively encouraged by the central governments. For instance, agrarian laws in countries across the tropics granted property rights over previously “unproductive” land to those who put it to use.¹¹ Although most agrarian laws were reformed in the 1990s and 2000s, small-scale agriculture is still the main vehicle of colonisation in tropical forest nations, particularly where a higher population density is combined with relatively small forests, such as in East and West Africa and Central America¹². Around 33 percent of deforestation is caused by subsistence agriculture.¹³

Following a global trend towards urbanisation and increasing concentration of capital, agricultural activity in developing nations is rapidly shifting from labour-intensive farming to industrial-scale production for urban populations.¹⁴ In particular, the recent liberalisation of land markets has inaugurated the expansion of industrial agriculture in developing countries, which has rapidly become a major cause of forest conversion and is poised to further replace traditional forms of farming across the developed world.¹⁵ Today, it is estimated that over 40 percent of

⁸ Gibbs et al, ‘Tropical forests were the primary sources of new agricultural land in the 1980s and 1990s’ (2010) 107 (38) PNAS 16732, at 16733.

⁹ ‘Primary forest’ is defined as forest that has never been logged and has developed following natural disturbances and under natural processes, regardless of its age. It is contrasted with ‘secondary forest’ which is a forest that has been logged and has recovered naturally or artificially; ‘Definitions’ (CBD) <www.cbd.int/forest/definitions.shtml> Accessed 8 February 2014.

¹⁰ Gibbs et al (n 8) 16733.

¹¹ Chapter 5 box 5.1.

¹² Rudel et al, ‘Changing drivers of deforestation and new opportunities for conservation’ (2009) 23 Conservation Biology 1396, at 1400-1.

¹³ Hosonuma et al. (n 5) 8.

¹⁴ DeFries et al, ‘Deforestation driven by urban population growth and agricultural trade in the twenty-first century’ (2010) 3 Nature Geoscience 178, at 178.

¹⁵ Foresight, *The Future of Food and Farming - Final Project Report* (Government Office for Science 2011) 64.

deforestation is caused by commercial agriculture¹⁶ and, with commodity prices on the rise, farmland is becoming an increasingly attractive asset for international investors.¹⁷ Commercial agriculture is more prominent in Latin America and South East Asia than in Africa, but the increased flow of foreign agricultural investments, urbanisation, access to markets and economic growth suggest that commercial agriculture may soon replace subsistence activities across rural Africa.

Ranching uses about 70 percent of global agricultural land, or 3.4 out of 4.9 billion hectares,¹⁸ while approximately 33 percent of the world's cropland is used to grow animal feed.¹⁹ Although the majority of global beef production comes from rangelands, ranching is the main cause of deforestation in the Amazon and accounts for about two-thirds of forest loss in Latin America.²⁰ It is estimated that pastures have expanded by about 2.5 million hectares per year between 1990 and 2007;²¹ 17 million hectares of forest were lost to pasture in Brazil over the 2000s, 3.4 million hectares in Colombia and 1.5 million hectares each in Bolivia and Peru.²² Cattle need vast amounts of land, water and feed to generate a relatively small quantity of food and dairy produce.²³ Moreover, the sustainability of this extensive land use is lowered by rapid pasture degradation, which maintains the process of expansion. Although extensive pasture is not particularly lucrative, the limited labour required, the economic flexibility and the low financial risks of investing in highly mobile non-perishable capital make it an appealing land use alternative in regions with

¹⁶ Hosonuma et al. (n 5) 8.

¹⁷ FAO, *The State of Food Insecurity 2011: How does international price volatility affect domestic economies and food security* (FAO 2011) 13-8; Von Grebmer et al, *Global Hunger Index 2011: The Challenge of hunger: taming price spikes and excessive price volatility* (DFS Druck 2011) 24-5.

¹⁸ Steinfeld et al, *Livestock in a changing landscape, Vol. 1: Drivers, consequences and responses* (Island Press 2010) 35.

¹⁹ Steinfeld et al, *Livestock's Long Shadow: Environmental Issues and Options* (FAO 2006) 45.

²⁰ *Ibid* 188.

²¹ Deininger et al (n 7) 13.

²² Wassenaar et al, 'Projecting land use changes in the neotropics: The geography of pasture expansion into forest' (2007) 17 *Gl. Env. Change* 86.

²³ Farmed animals (poultry, pork, beef, milk, eggs etc.) grow by transforming vegetable calories (grains and other feed) into animal proteins. But the process is very inefficient. With cattle in feedlots, it takes roughly seven kilograms of grain to produce one kilogram of beef, but only three kilograms for pork meat and two for poultry. The water requirements are also very different, suggesting that pork meat and poultry are the most efficient animal-based proteins, right behind farmed fish. Brown, *Plan B 4.0: Mobilizing to save civilization* (Northon & Company 2009) 226.

abundant cheap land and unclear tenure rights.²⁴ It also means that it can be easily displaced by more lucrative activities, as shown in box 2.1.

Box 2.1: Example of the interplay of agriculture and cattle ranching in Brazil

Soy consumption has greatly increased in the last decades. A source of high quality protein, most soya produce ends up in animal feed since its consumption greatly increases the growth of cattle. In South America, cultivation began in the second half of the 20th century, but it only spread in the Amazon from the late 1980s, when farmers adapted their practices to the poor soils of the region. The cultivated area grew from 9.7 million hectares in 1990 to 24.2 billion in 2010, contributing to a massive spike in deforestation (e.g. deforestation rates in the Amazon followed the swings in global soy prices, with rapid deforestation in years such as 2003 and 2004 when prices were high).²⁵ The thriving industry attracted investments in transport infrastructure which opened up access to more areas and made other agricultural and logging businesses profitable.²⁶

In 2006, the increasing pressure of environmental groups won the collaboration of two major associations of soybean processors to declare a moratorium on soybean produced on Amazon farmland.²⁷ The soy industry continued to grow outside the Amazon rainforest as producers expanded southward to the drier Brazilian *cerrado* - an extremely biodiverse savannah-like ecosystem covering roughly twenty percent of central Brazil. Yet with a perverse domino effect, the return of highly profitable investments in soy plantations in the *cerrado* displaced cattle ranching back to the North. With improved infrastructure, better access to new forest lands, cheaper land prices and increasing demand from international markets, ranching – which occupies 85 percent of the agricultural land in the legal Amazon²⁸ – has become even more profitable and is continuing its expansion into the forest.²⁹

New agricultural commodities are expanding dramatically in tropical regions and compete for arable land with traditional food crops. In the last two decades, palm oil production has doubled,³⁰ while in Indonesia the areas used by plantations increased

²⁴ Wassenaar et al (n 22).

²⁵ Boucher et al, *What 's Driving Tropical Deforestation Today?: The Root of the Problem* (UCS Publications 2011) 34.

²⁶ Nepstad, Stickler, Almeida, 'Globalization of the Amazon soy and beef industries: opportunities for conservation' (2006) 20 *Cons. Biology* 1596.

²⁷ Rudorff et al, 'The soy moratorium in the Amazon biome monitored by remote sensing images' (2011) 3 *Remote Sensing* 185.

²⁸ The Legal Amazon is a geographic division of Brazil which includes seven States: Acre, Amapá, Amazonas, Pará, Rondônia, Roraima and Tocantins; the main characteristic of the region is the natural prevalence of the tropical forest biome which is part of the vast Amazon rainforest ecosystem.

²⁹ McAlpine et al, 'Increasing world consumption of beef as a driver of regional and global change: A call for policy action based on evidence from Queensland (Australia), Colombia and Brazil' (2009) 19 *Gl Env Ch* 21.

³⁰ FAO, *Southeast Asian forests and forestry to 2020: Subregional report of the second Asia-Pacific forestry sector outlook study* (FAO 2011).

from 5.5 to almost 17 million hectares between 1997 and 2007.³¹ This expansion happened mostly at the expenses of forests,³² generating a disproportionately large carbon footprint because plantations are often located on carbon-dense peat forests.³³

Over the last decade biofuels have emerged as a major commodity thanks to regulatory aid in the US and EU.³⁴ Biofuels are renewable liquid or gaseous fuels derived from plant or animal material (biomass) used in the transport sector, for heat production and for electricity generation. Allegedly, they would be a buffer against the volatility of fossil fuels prices (biofuels are not imported from politically unstable regions), energy insecurity (biomass is a renewable energy) and climate change (emits less greenhouse gases through combustion than fossil fuels).³⁵ Recent research questions the climate benefits of first generation biofuels made from conventional harvested products of food crops,³⁶ whose cultivation generates additional land requirements of between 0.5 and 1.1 million hectares annually.³⁷ Despite efforts to locate production on degraded, marginal or abandoned lands, biofuels compete for space with farming, displacing food production, raising land

³¹ World Bank, *The World Bank Group Framework and IFC strategy for engagement in the palm oil sector* (World Bank 2011) 24.

³² Between 1990 and 2005 at least 55 percent of new palm oil plantations in Indonesia and Malaysia replaced primary forestlands. Koh, Wilcove, 'Is oil palm agriculture really destroying tropical biodiversity?' (2008) 1(2) *Cons. Letters* 60.

³³ Jaenicke et al, 'Determination of the amount of carbon stored in Indonesian peatlands' (2008) 31(3-4) *Geoderma* 151; Jauhainen et al., 'Carbon fluxes from a tropical peat swamp forest floor' (2005) 11(10) *Global Change Biology* 1788.

³⁴ The EU set a minimum target for biofuel use at 10 percent of transport petrol and diesel by 2020, while in the US renewable fuels must account for 36 billion gallons of transport fuel by 2022. Council Directive 2009/28/EC of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC [2009] OJ L140/16, art 3.4; Energy Policy Act 2005 (US) Sec 1501; Energy Independence and Security Act 2007 (US) Sec 202.

³⁵ European Commission 2007/589/EC, Commission Decision of 18 July 2007 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council [2007] OJ L229/1.

³⁶ First generation biofuels include bioethanol (produced by fermentation of sugars or starches from sugar cane, sugar beet, wheat or corn) and biodiesel (made from vegetable oils from oilseed rape, soybean, sunflower and oil palm). Problems with their sustainability sparked research into biofuels from alternative sources that do not do not impair food production (such as lingo-cellulosic and algae). Nuffield Council on Bioethics, *Biofuels: ethical issues* (Nuffield Press 2011) 2.

³⁷ Fischer, *World Food and Agriculture to 2030/50: Technical paper from the Expert Meeting on How to Feed the World in 2050* (FAO 2009).

prices, causing indirect land use change emissions from forests and other carbon sinks,³⁸ and potentially threatening global food security.³⁹

The other drivers have far less impact. The mining of gems and metal ores (gold, silver, copper, nickel and iron) causes about seven percent of global deforestation, with hotspots in Africa and South East Asia.⁴⁰ Infrastructures and urbanisation cause 10 percent of deforestation each. Urbanisation is a major factor in Indonesia, while energy infrastructures are most prominent in South America. For instance, in energy-hungry Brazil, most hydroelectric power plants are located in the Amazon, where just four of the planned 79 dams have flooded over half million hectares.⁴¹ Although these drivers are important at national level, and cause substantial social and environmental damage at landscape scale,⁴² a case can be made for concentrating

³⁸ Gawela, Ludwig, 'The iLUC dilemma: How to deal with indirect land use changes when governing energy crops?' (2011) 28 Land Use Policy 846; Fargione et al, 'Land Clearing and the Biofuel Carbon Debt' (2008) 319(5867) Science 1235; European Environment Agency Scientific Committee, *Opinion of the EEA Scientific Committee on Greenhouse Gas Accounting in Relation to Bioenergy* (15 September 2011) <www.eea.europa.eu/about-us/governance/scientific-committee/sc-opinions/opinions-on-scientific-issues/sc-opinion-on-greenhouse-gas/view> Accessed 8 February 2014; Kim, Dale, 'Indirect land use change for biofuels: Testing predictions and improving analytical methodologies' (2011) 35 Biomass and Bioenergy 3235; Arima et al, 'Statistical confirmation of indirect land use change in the Brazilian Amazon' (2011) 6 Env. Res. Letters; Mendonca, 'Monocropping for Agrofuels: The case of Brazil' (2011) 54(1) Development 98; Franco et al, 'Assumptions in the European Union biofuels policy: frictions with experiences in Germany, Brazil and Mozambique' (2010) 39(4) The Journal of Peasant Studies 661.

³⁹ Gallagher (ed.), *The Gallagher review of the indirect effects of biofuels production* (Renewable Fuels Agency 2008) 12; Fischer et al, *Biofuels and Food Security: Implications of an accelerated biofuels production* (IIASA 2009); Eid, *The Right to Food and the Impact of Liquid Biofuels* (FAO 2008); FAO, *Global Information and Early Warning System on Food and Agriculture: Crop Prospects and Food Situation No. 2* (FAO 2009).

⁴⁰ Hosonuma et al (n 5) 8; see also Shearman et al, 'Forest Conversion and Degradation in Papua New Guinea 1972–2002', (2009) 41(3) Biotropica 379; Swenson et al, 'Gold Mining in the Peruvian Amazon: Global Prices, Deforestation, and Mercury Imports', (2011) 6(4) PLoS ONE; Fearnside, 'The roles and movements of actors in the deforestation of Brazilian Amazonia' (2008) 13(1) Ecology and Society 23.

⁴¹ Fearnside, 'Hydroelectric Dams in the Brazilian Amazon as Sources of 'Greenhouse' Gases' (1995) 22(1) Env. Cons. 7, at 11; see also the projected environmental of the Belo Monte dam in Fearnside, 'Dams in the Amazon: Belo Monte and Brazil's Hydroelectric Development of the Xingu River Basin' (2006) 38(1) Env. Manag. 16.

⁴² For instance, mining contaminates freshwater with devastating impacts on local users and aquatic biodiversity and it scars landscapes at very big scales making restorations complex and expensive; Veiga, Maxson, Hylander, 'Origin and Consumption of Mercury in Small-Scale Gold Mining' (2006) 14 Journal of Cleaner Production 436; D.J. Tongway, J.A. Ludwig, 'Restoring Mined Landscapes', in Tongway, Ludwig, *Restoring Disturbed Landscapes: Putting principles into practice* (Island Press 2011). Similarly, energy *Infrastructure* often causes the displacement of local peoples, loss of biodiversity and substantial emissions at local level; Fearnside, 'Greenhouse gas emissions from hydroelectric dams: Controversies provide a springboard for rethinking a supposedly "clean" energy

efforts on the major drivers. The reasons are both economic and political: first, infrastructure development, urban expansion and mining are highly remunerative activities whose profitability would be hardly affected by REDD-plus; secondly, agriculture has more geographical flexibility than the other drivers and can thus be more easily relocated on low-carbon lands. This is not to say that the programme must ignore non-agricultural drivers, but priority should be given to the agricultural sector where REDD-plus can have a greater impact.

2.1.2. Proximate economic causes of forest degradation

Although the IPCC has provided five definitions of forest degradation,⁴³ none of these has yet been adopted by the UNFCCC COP, leaving considerable uncertainty.⁴⁴ All IPCC definitions refer to those human-induced long-term reductions of forest biomass and carbon capacity below a certain threshold which do not entail a change in land use destination. Hosonuma et al list four categories of forest degradation activities: logging, uncontrolled fires, livestock grazing and woodfuel collection.⁴⁵ Uncontrolled fire and livestock grazing are minor drivers, accounting for nine and seven percent of forest degradation respectively.⁴⁶ By contrast, logging and timber extraction are related to about 52 percent of global forest degradation (over 70 percent in Latin America and Asia), while firewood collection and charcoal production account for around 31 percent of the total.⁴⁷

Logging has many uses. Unprocessed wood is used as fuel, while processed wood becomes timber (used as building materials, furniture, utensils and so forth) or pulp (which is used to make writing paper and derivatives). Between 1983 and 2005, the total value of forest products traded in the international market increased from

source' (2004) 66(1-2) *Climatic Change* 1; Nazareno, Lovejoy, 'Energy production: Giant dam threatens Brazilian rainforest' (2011) 478 *Nature* 37.

⁴³ IPCC, *IPCC Report on Definitions and Methodological Options to Inventory Emissions from Direct Human-induced Degradation of Forests and Devegetation of Other Vegetation Types* (IGES 2003) 13.

⁴⁴ Sasaki, Putz, 'Critical need for new definitions of "forest" and "forest degradation" in global climate change agreements' (2009) 2(5) *Conserv. Lett.* 226.

⁴⁵ Hosonuma et al (n 5) 3.

⁴⁶ *Ibid* 8.

⁴⁷ *Ibid* 6-8.

US\$60 billion to US\$257 billion. Of these, almost US\$ 110 billion comes from the pulp and paper sector, roughly US\$80 billion from primary wood products and US\$60 billion from processed wood products.⁴⁸ These figures represent only a fraction of the total value of wood products given that international trade only involves a mere 3.5 percent of the global roundwood production, the rest of which is absorbed by domestic markets. Moreover, these figures do not include illegal logging, which some estimates place at around 40 percent of all harvested timber in the tropics⁴⁹ (albeit with significant national differences).⁵⁰

Because wood is renewable, sustainability depends on the extraction rate. Sustainable forest management allows sufficient time for tree regeneration and has a limited impact on biodiversity and carbon emissions. By contrast, conventional logging's sustained forest exploitation leads to degradation which generates considerable emissions⁵¹ and has a severe impact on biodiversity.⁵² The degradation process usually begins with the removal of a few valuable species, called selective logging, but can destroy over 80 percent of trees in the process.⁵³ In some regions the abundance of commercial species makes direct clear-cutting of natural forests and their replacement with plantations (timber or other crops) more convenient.

Logging often leads to deforestation. First, by providing access to previously inaccessible forest areas: loggers build roads that are used to transport the logs and install electricity and other services in remote areas which are thus open to

⁴⁸ FAO, *Proceedings: FAO Advisory Committee on Paper and Wood Products, Forty-eighth session, Shanghai, China, 6 June 2007* (FAO 2008) 5-11.

⁴⁹ Contreras-Hermosilla, Doornbosch, Lodge, *Round table on sustainable development: the economics of illegal logging and associated trade* (OECD 2007) 4.

⁵⁰ It is difficult to estimate the large scale impact of illegal logging due to its secretive nature. Studies that present a comparative analysis of the market share of illegally harvested products in tropical countries offer very different results: in Malaysia it is around 25 percent; Cameroon has a range of 20-35 percent; Indonesia has a range of 50-60 percent; in the Brazilian Amazon, which for its size is particularly difficult to monitor, estimates range between 35-70 percent. For a comparison see: Lawson, Macfaul, *Illegal logging and related trade: Indicators of the global response* (Chatham House 2010).

⁵¹ Global emissions from degradation are thought to be perhaps as high as those from deforestation, but estimates are unreliable because degradation is hard to detect using remote sensing. Asner et al, 'High-resolution forest carbon stocks and emissions in the Amazon' (2010) 107 PNAS 1.

⁵² Threats to biodiversity include the disturbance of sensitive species, especially large mammals, but also for the disappearance of tree species that are food for or habitat of other species.

⁵³ Gerwing, 'Degradation of forests through logging and fire in the eastern Brazilian Amazon' (2002) 157 *Forest Ecology & Management* 131, at 136.

colonisation once the extraction is complete.⁵⁴ Second, logging decreases ecosystem resilience, making forests more vulnerable to fire and subsequent conversion to farmland or pasture.⁵⁵ Thirdly, by providing capital: wood extraction requires a relatively small capital (from just a few chainsaws to a few bulldozers and minimum extra infrastructure) but it generates revenues which are then reinvested in agricultural enterprises, as in the case of palm oil in Indonesia or small-scale cattle ranching and agriculture in Ecuador (box 2.2).⁵⁶

Box 2.2: Illegal logging and deforestation in North-West Ecuador⁵⁷

In the first decade of the century, a remote area of the Imbabura region in North West Ecuador was opened to colonisation thanks to the construction of a road. Migrants poured into the area, previously inhabited by a few subsistence farmers. At the same time, increased access meant that locally harvested timber could be sold more easily in the nearby cities and in 10 years the local economy changed from subsistence agriculture to one based on illegal logging. The timber is logged by underpaid local labour and smuggled – often in collusion with the police and government officials - to the city markets. Most of the profits remain with the transporters and truck owners, while locals reinvest their gains in other forest-consuming activities (cattle and agriculture).

This cycle caused the loss of over 100,000 hectares of forests in the region because, in the majority of cases, it is swiftly followed by deforestation. Chainsaw operators open up the road to remote forest areas to log the most valuable tree species. They then log all other usable trees. Once not much useful timber is left in the forest, the remaining vegetation is burnt and, to establish land rights, crops or pastures are planted. However, the poor quality of soils and steep topography cause rapid nutrient runoff, which impairs land productivity and forces the occupier to seek more land leaving behind highly degraded landscape. Degradation affects the watershed, and costly forest restorations have become necessary to ensure the regular supply of water to communities downriver.

Across the tropics, around 1.4 billion cubic meters of firewood are used each year and around 40 million metric tons of charcoal is produced.⁵⁸ Charcoal is a fuel obtained by slow pyrolysis of vegetation; it is used for cooking as well as industrial

⁵⁴ Barbier, Bockstael, Burgess, Strand, 'The Timber Trade and Tropical Deforestation in Indonesia' in Brown, Pearce (eds.), *The Causes of Tropical Deforestation* (UCL Press 1994).

⁵⁵ Laurance, Williamson, 'Positive Feedbacks among Forest Fragmentation, Drought, and Climate Change in the Amazon' (2001) 15(6) *Conservation Biology* 1529.

⁵⁶ Benhin, 'Agriculture and Deforestation in the Tropics: A Critical Theoretical and Empirical Review' (2006) 35 *Ambio* 9.

⁵⁷ The information contained in this section was collected by the author in a field study conducted between June and August 2011.

⁵⁸ Hofstad, Kohlin, Namaalwa, 'How can emissions from woodfuel be reduced?', in Angelsen et al, *Realising REDD-plus: National strategy and policy options* (CIFOR 2009) 237.

production, and its main difference from other kinds of woodfuels such as firewood is that it is mostly sold in domestic markets rather than used locally.⁵⁹ Although the majority of wood from tropical countries is used as fuel, most of it comes from dead material or from woodlands outside forests and is considered sustainable.⁶⁰ In Sub-Saharan Africa, where small-scale firewood production accounts for over 50 percent of forest degradation, wood is self-collected or purchased from local dealers and consumed by farmers and households.⁶¹ Local collection rarely causes serious degradation, but it can worsen degradation in areas hit by commercial logging.⁶²

Table 1 summarises the activities causing the majority of forest emissions, their economic source and profitability. It also hints at some possible responses which will be further discussed in the following chapters.

Table 1: Summary of the main causes of forest emissions

Direct driver	Opportunity cost ⁶³	Source of demand	Possible responses
Industrial agriculture	Mid to High	International/National	Spatial relocation of activities
Commercial ranching	Low to Mid	International/National	Cattle intensification
Subsistence farming	Low	Local	Improved agricultural practices
Commercial logging	Mid to High	International	Sustainable forest management
Firewood/Charcoal	Low	Local /National	Alternative fuels/fuel efficiency

⁵⁹ Mwampamba, 'Has the woodfuel crisis returned?: Urban charcoal consumption in Tanzania and its implications to present and future forest availability' (2007) 35(8) En. Pol. 4221, at 4222.

⁶⁰ Hiemstra-van der Horst, Hovorka, 'Fuelwood: The "other" renewable energy source for Africa?' (2009) 33 Biomass and Bioenergy 1605; Morton, 'Fuelwood consumption and woody biomass accumulation in Mali, West Africa' (2007) 5 Ethnobotany Research & Applications 37.

⁶¹ By contrast, the production of firewood in East Asia and of charcoal in Latin America is industrialised. Boucher et al (n 25) 84-5.

⁶² Ahrends et al, 'Predictable waves of sequential forest degradation and biodiversity loss spreading from an African city' (2010) 107 PNAS 1.

⁶³ The term 'opportunity cost' indicates the cost of an alternative that must be forgone in order to pursue a certain action - that is, the benefits one could have received by taking an alternative action.

2.1.3. The indirect drivers of forest loss

Experts conventionally distinguish the human activities that directly cause forest loss at the local level from the social, economic, political, technological and demographical factors that influence them (underlying or indirect drivers).⁶⁴ These factors follow global trends and their impact is relatively consistent across the developing world.⁶⁵

An influential study published almost 40 years ago by Paul Ehrlich and John Holdren describes the human impact on the environment as the product of three variables: the number of people, per capita consumption (as a measure of affluence) and the disruptiveness of technologies that produce the goods consumed.⁶⁶ This correlation was expressed in a simple equation, known as the ‘Ehrlich formula’, which measures environmental impact (I) as the product of population (P) times affluence or income level (A) times the intensity of disruptive technologies (T).

$$I = P \times A \times T$$

Despite the criticisms levied,⁶⁷ the equation has the merit of representing in simple terms the connection between the underlying drivers and environmental degradation.⁶⁸ For instance, under a business-as-usual scenario pressure on forests is bound to increase alongside the expected growth in population and affluence over the next decade. On 31 October 2011 the world’s population reached seven billion, a

⁶⁴ Geist, Lambin, ‘Proximate causes and underlying driving forces of tropical deforestation’ (2002) 52(2) *Bioscience* 143; Schaeffer, Vianna-Rodrigues, ‘Underlying causes of deforestation’ (2005) 307(5712) *Science* 1046.

⁶⁵ Using Geist and Lambin’s classification (n 64), Gupta et al. argue that some underlying drivers of forest loss operate at the local level (poverty and culture) while others operate at the national level (e.g. population, technology and access to markets). This research takes a different perspective: while it is correct to say that the underlying drivers become explicit within the national and subnational contexts, in today’s integrated economy they are very much the product of global trends and policy choices rather than national ones: Gupta, van der Grijp, Kuik (eds.), *Climate Change, Forests and REDD: Lessons for Institutional Design* (Routledge 2013) 30.

⁶⁶ Ehrlich, Holdren, ‘Impact of population growth’ (1971) 171 *Science* 1212; B. Commoner, ‘A bulletin dialogue on “The Closing Circle”: Response’ (1972) 28(5) *Bulletin of the Atomic Scientists* 17.

⁶⁷ See, e.g., Chertow, ‘The IPAT Equation and Its Variants: Changing Views of Technology and Environmental Impact’ (2001) 4(4) *J. Ind. Eco.* 19.

⁶⁸ Meyer, Turner, ‘Human population growth and global land-use/cover change’ (1992) 23 *Annual review of ecology and systematics* 39, at 51-2.

dramatic increase from the 2.5 billion people of 1950. Projections indicate that by 2050 there will be a further 2.6 billion people demanding food, water, wood, minerals and energy, and generally taking up more physical space.⁶⁹ Demographic distribution in many tropical countries will also change drastically as urban population doubles while rural inhabitants decrease.⁷⁰ Economic growth is expected to continue⁷¹ until it hits its environmental limits.⁷² Despite the economic crisis, global Gross Domestic Product (GDP) has almost doubled in 10 years, from US\$32 trillion in 2000 to US\$63 trillion in 2010.⁷³ This growth was driven by emerging economies and especially China, which is rapidly becoming the main trading partner for tropical nations.

The population boom and the spread of consumerism to emerging economies are driving up demand for natural resources which has caused enormous strains on the earth ecosystems and species, and put humanity outside its ‘safe operating space’.⁷⁴ These trends will continue to reinforce the direct drivers of forest loss and change their relative importance.⁷⁵ Forest conversion to farmland will be pushed primarily by demand for food, which it is estimated to increase between 70 and 100 percent by 2050⁷⁶ (that is, if we are to feed some of the estimated 925 million suffering from hunger⁷⁷ while also satisfying the more resource-intensive dietary habits of wealthier

⁶⁹ UN, *World Population Prospects: The 2012 Revision, Volume I: Comprehensive Tables* [2013] UN Doc ST/ESA/SER.A/336, p. xv.

⁷⁰ UNFPA, *State of the World Population 2007: Unleashing the Potential of Urban Growth* (UNFPA 2007)

⁷¹ On the dependence of the current economic system on continued growth see: Jackson, *Prosperity Without Growth: Economics for a Finite Planet* (Earthscan 2009).

⁷² There is a vast literature on environmental limits. Apart from ‘the Limits of Growth’ at 98, two recent works that explore the relations between economic growth and environmental limits are: Jackson (n 71); Brown (n 23)

⁷³ World Bank, *World Development Indicators 2012* (World Bank 2012) 209 .

⁷⁴ Rockström et al, ‘A safe operating space for humanity’ (2009) 461(24) *Nature* 472.

⁷⁵ Rademaekers et al, *Study on the evolution of some deforestation drivers and their potential impacts on the costs of an avoiding deforestation scheme* (ECORYS 2011) 25.

⁷⁶ OECD-FAO, *OECD-FAO agricultural outlook 2010–2019* (OECD 2010); World Bank, *World Development Report 2008: Agriculture for Development* (World Bank 2008); Royal Society of London, *Reaping the Benefits: Science and Sustainable intensification of Global Agriculture* (Royal Society 2009).

⁷⁷ FAO (n 17); remarkably, demographic expansion will be stronger in Sub-Saharan Africa and South Asia, where hunger levels are among the highest, see Von Grebmer et al (n 17).

emerging countries),⁷⁸ and for biofuels, if the current regulatory incentives are not discontinued.⁷⁹ As a result, the cultivated area is projected to expand in forest-rich developing countries by at least six million hectares each year until 2030.⁸⁰ Urbanisation will decrease the importance of small-scale agriculture and economic growth should reduce the environmental impact of charcoal and firewood as rural population access alternative heating methods.⁸¹

Growing population and increasing affluence will also drive wood extraction up. Under a conservative scenario, wood and wood products traded in the international market will reach US\$250-450 billion by the year 2020, 40 percent of which are secondary (i.e. processed) wood products. Countries and companies wishing to maintain their share in the international market will have to double exports in the next 10–15 years.⁸² A greater share of wood production will come from plantations (which are expected to occupy 450 million hectares across the tropics by 2020),⁸³ yet these are unlikely to satisfy demand and there are doubts over their sustainability.⁸⁴

Quite obviously, global environmental change is ultimately caused by a higher number of complex variables, such as ecosystem resilience and feedback loops (i.e. a sequence of events or interactions that loops back to change the very conditions that started the process of environmental degradation). Such technical analysis goes beyond the purpose of this thesis and will not be discussed. However, the ecological

⁷⁸ Wirsenius, Hedenus, Mohlin, 'Greenhouse gas taxes on animal food products: Rationale, tax scheme and climate mitigation effects' (2010) *Climatic Change* 1. For instance, global meat production grew roughly 20 percent since 2000 and over 200 percent since the 1970s, much faster than population; see Chang, 'Meat Production and Consumption Continue to Grow' (WorldWatch Institute 2011) <<http://vitalsigns.worldwatch.org/vs-trend/meat-production-and-consumption-continue-grow-0>> Accessed 10 February 2014.

⁷⁹ One scenario, in line with the most recent literature, predicts that if nothing is done to reduce deforestation, a global target of 10 percent fossil fuel substitution with first generation biofuels would cause up to 100 million hectares of additional deforestation, an area de size of Egypt: Havlik, 'GHG mitigation through bioenergy production versus carbon sinks enhancement: A quantitative analysis' (2009) 6 IOP Conf. Ser.: Earth Environ. Sci., at 1 <DOI:10.1088/1755-1307/6/16/162004>.

⁸⁰ Deininger et al. (n 7) xviii.

⁸¹ See Pacheco, 'Smallholder livelihoods, wealth and deforestation in the Eastern Amazon' (2009) 37 *Human Ecology* 27.

⁸² FAO (n 48) 9.

⁸³ *Ibid.*

⁸⁴ A serious concern is that plantations could be established at the expanses of existing forests, causing problems for biodiversity, water and other ecosystem services.

reactions to human-induced change are by no means trivial in determining the final environmental impact of human activities and should be considered at least as a warning of the unpredictable consequences of large-scale environmental damage. Box 2.3 briefly summarises some of the potential impacts of climate change on the global health of forests.

Box 2.3: Feedback loops between climate change and forest loss

Forest loss causes climate change yet the opposite is also true. Theoretically, higher CO₂ density in the atmosphere enhances plant growth, hence with increasing concentration both the global uptake of atmospheric carbon and the terrestrial primary production increase.⁸⁵ Yet terrestrial primary production declined in the 2000s mainly due to decreasing rainfall,⁸⁶ calling for a comprehensive evaluation of coupled carbon-climate cycle analysis.⁸⁷

At the same time, climate variability can greatly increase the vulnerability of forests to pests⁸⁸ and fires.⁸⁹ Climate-induced forest loss would release more carbon dioxide in the atmosphere thus worsening climate change and thus creating a positive feedback loop. Finally, climate change may also have an indirect impact on forests through the disruption of food production at various scales;⁹⁰ this too could result in a vicious cycle with higher food and land prices increasing land use change rates, which in turn cause more climate change and reduce adaptation capacity and so forth.

2.2. The ‘policy element’ of forest loss: poor governance in developing countries

The drivers of forest loss are so ingrained in the global economic system that it is no hazard to say that the sustained (and increasingly unsustainable) use of forests is

⁸⁵ Nemani et al, ‘Climate-Driven Increases in Global Terrestrial Net Primary Production from 1982 to 1999’ (2003) 300(5625) *Science* 1560.

⁸⁶ Zhao, Running, ‘Drought-Induced Reduction in Global Terrestrial Net Primary Production from 2000 Through 2009’ (2010) 329(5994) *Science* 940, at 940.

⁸⁷ Beer, ‘Terrestrial Gross Carbon Dioxide Uptake: Global Distribution and Covariation with Climate’ (2010) 329(5993) *Science* 834, at 837 .

⁸⁸ Kurz et al, ‘Mountain pine beetle and forest carbon feedback to climate change’ (2008) 452 *Nature*.

⁸⁹ Nepstad, ‘Amazon drought and its implications for forest flammability and tree growth: a basin-wide analysis’ (2004) 10(5) *GI Ch Bio* 704; Malhi et al, ‘Climate Change, Deforestation, and the Fate of the Amazon’ (2008) 319(5860) *Science* 169; Phillips, ‘Drought Sensitivity of the Amazon Rainforest’ (2009) 323(5919) *Science* 1344.

⁹⁰ IPCC, *Climate Change 2007: Contributions of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (CUP 2007) 228-30; also see Foresight (n 15); Parry et al, ‘Effects of climate change on global food production under SRES emissions and socio-economic scenarios’ (2004) 14 *GI Env Ch* 53.

intrinsic to the current development paradigm.⁹¹ Reducing forest emissions must thus be understood in the context of sustainable development, as stated by the 1992 Convention⁹² and reaffirmed by REDD-plus.⁹³

Sustainable development has been most famously defined as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”.⁹⁴ It has become an international law principle as well as a distinct area of international law, guiding a plethora of instruments.⁹⁵ Achieving sustainable development in the REDD-plus context requires addressing the drivers of forest loss without compromising the economic activity that meets the needs of the present generation. To realise that, it is submitted that political will (such as that enshrined in international environmental agreements) is insufficient: economic activities must be guided by an effective governance system. Such system must possess three characteristics: the ability to operate at various scales (multi-level); the capacity to influence different economic sectors (multi-sector); and the disposition to involve various groups of stakeholders operating at different levels (multi-stakeholder).⁹⁶

Developing countries have traditionally rested on centralised forms of forest governance, in some cases more akin to the definition of government control

⁹¹ This concept is not dissimilar to the message of the seminal report ‘The Limits to Growth’, which has served to inspire the environmental movement since its publication in 1972; Meadows et al., *The Limits to Growth: A Report for the Club of Rome’s Project on the Predicament of Mankind* (Potomac 1972).

⁹² United Nations Framework Convention on Climate Change (adopted in Rio de Janeiro on 9 May 1992, entered into force 31 March 1994) 1771 UNTS I-30822, article 1(3).

⁹³ UNFCCC Decision 1/CP.16 (2010) UN Doc FCCC/CP/2010/7/Add.1, Appendix I paragraph 1(f)(g).

⁹⁴ World Commission on Environment and Development, *Our Common Future* (OUP 1987).

⁹⁵ Tladi, *Sustainable Development in International Law: An Analysis of Key Enviro-economic Instruments* (PULP 2007) 93; Lowe, ‘Sustainable Development and Unsustainable Arguments’ in Boyle, Freestone (eds.), *International law and Sustainable Development: Past Achievements and Future Challenges* (OUP 1999) 19; Magraw, Hawke, ‘Sustainable Development’ in Bodanski, Brunée, Hey, *The Oxford Handbook on International Environmental Law* (OUP 2007) 614.

⁹⁶ These are also called the ‘multiples’ of governance: Poteete, ‘Levels, Scales, Linkages, and Other ‘Multiples’ affecting Natural Resources’ (2012) 6(2) *International Journal of the Commons* 134, at 135.

provided in chapter 1, and resist decentralisation.⁹⁷ Governments faced the challenge of limiting environmental degradation while also governing a rapid transition towards industrialisation, messy economic growth, lingering social problems, growing demography and rapid urbanisation. Perhaps unsurprisingly, they have been unable or unwilling to realise effective sustainable development policies. Indeed, these countries are also inherently ill-equipped to develop and implement such policies due to deep-rooted problems. Rather than mitigating the environmental impact of economic drivers, poorly designed, illegitimate or unenforceable governmental policies have in some cases made the impact of drivers even worse.⁹⁸

This section analyses governance performance in 35 REDD-plus countries with the highest gross deforestation contributing over 80 percent of global forest loss.⁹⁹ The choice is consistent with the thesis' focus on effectiveness. The sample is large enough to be representative of the whole spectrum of likely REDD-plus participant countries, as it includes countries that represent all the macro-regions (South-East Asia, Sub-Saharan Africa, Central and South America), are at different stages of development (from least developed countries to emerging economics), experience extremely diverse drivers, and have wide-ranging governance capacity.

Several dimensions of governance have been extrapolated from the literature and organised in three clusters. The first cluster concerns government capacity: this is the substantive (also formalistic or positivistic)¹⁰⁰ element of governance concerned with the material outcome of government action. Developing and implementing policies to address the drivers requires government capacity that, for ease of analysis, has

⁹⁷ Ribot, Agrawal, Larson, 'Recentralizing While Decentralizing: How National Governments Reappropriate Forest Resources' (2006) 34(11) *World Development* 1864.

⁹⁸ For instance, when poor governance creates a situation known as the 'tragedy of the commons' in which uncertainty about the right to use natural resources (e.g. due to continue change in the laws governing tenure, arbitrary government acquisitions of forest lands, corporate land grabs and so forth) creates an incentive for stakeholders to maximise their rate of extraction in the short term regardless of the market demand for the commodity; Hardin, 'The Tragedy of the Commons' (1968) 162(3859) *Science* 1243.

⁹⁹ See Annex A.

¹⁰⁰ Good governance in a positivistic sense defines the "parameters of a capable state that is accountable to its citizens and operating under the rule of law" - such as service delivery, laws and regulations, and formal institutions: Kaufmann, Kray, 'Governance Indicators: Where are we? Where should we be going?' (2008) 23(1) *The World Bank Research Observers*, cited in Saunders, Reeve, *Monitoring Governance for Implementation of REDD-plus: Expert workshop 24-25 May 2010* (Chatham House 2010) 12.

here been described as a product of three factors: quality of regulations, bureaucratic capacity and the rule of law.

Regulatory quality is a government's ability to formulate and implement sound policies and regulations:¹⁰¹ it depends on the technical ability of law-makers (for which capacity building is important), their knowledge of the subject being regulated (for which participation is crucial) and the fairness of the decision-making process (for which transparency is central). Unclear, incomplete and incoherent forest laws negatively affect a government's control over its forest resources.¹⁰²

Bureaucratic capacity denotes the ability to give effect to public policies through specific measures of a programmatic, regulatory or incentive nature (e.g. action plans, programmes, projects and other measures such as positive incentives).¹⁰³ The lack of human, financial or technical capacity in the administration therefore causes ineffective government action, and it also breeds inefficiency and corruption.¹⁰⁴

Finally, the rule of law (i.e. the principle that no-one is above the law) gives stability and consistency to governance practices, and it is the foundation for stable and predictable social interactions.¹⁰⁵ It has three elements: (i) a fair, independent and effective judicial system (judiciary, prosecution and bar associations); (ii) mechanisms or arrangements that ensure equal access to justice, especially by

¹⁰¹ Discerning what constitutes 'sound policies and regulations' is not easy. Free-market ideology indicates that a good regulatory system cuts red-tape and reduces regulatory burdens so as to leave businesses free to operate, while more balanced and comprehensive definitions stress qualities such as efficiency, effectiveness, coherence, and simplicity. Kaufmann, Kraay, Mastruzzi, *The Worldwide Governance Indicators: Methodology and Analytical Issues* (World Bank 2010); Mauro, 'Corruption and Growth' (1995) 110(3) *Quarterly Journal of Economics* 681; European Commission, *Report of the working group on 'better regulation'* (EC 2001) cited in Radaelli, 'Getting to Grips with Quality in the Diffusion of Regulatory Impact Assessment in Europe' (2004) 24(5) *Public Money & Management* 271.

¹⁰² On this issue see, generally, Christy et al, *Forest Law and Sustainable Development: Addressing Contemporary Challenges Through Legal Reform* (World Bank 2007).

¹⁰³ The terms "policy", "plan", "programme" and "project" are increasingly narrow in time and geographical scope.

¹⁰⁴ Huber and McCarty note that 'low bureaucratic capacity diminishes incentives for bureaucrats to comply with legislation, making it more difficult for politicians to induce bureaucrats to take actions that politicians desire.' Huber, McCarty, 'Bureaucratic capacity, delegation, and political reform' (2004) 98(3) *APSR* 481, at 491.

¹⁰⁵ Daniels, Trebilcock, 'The political economy of rule of law reform in developing countries' (2004) 26(99) *Mich. J. Int'l L.* 99, at 105.

disadvantaged social groups; and (iii) an incorruptible, well-resourced and non-arbitrary police force that consistently enforces the law.

The second cluster of governance dimensions relates to a government's openness and includes mechanisms for public participation, transparency, accountability, and control of corruption. This is the procedural (or democratic) element.¹⁰⁶ The distinction between substantive and procedural governance is mostly theoretical¹⁰⁷ because undemocratic governance usually leads to poor substantive governance.¹⁰⁸

The pervasiveness of the drivers, the weak presence of the State and the incompatibility with command-and-control instruments imply that effective forest policy must be made with and for the stakeholders more than other areas of government policy. In order to achieve this, stakeholders must be involved actively, through *ad hoc* mechanisms for public participation, and passively, giving the public the power to monitor government behaviour and to hold it accountable for any wrongdoing.

Governance is also heavily influenced by the level of transparency and accountability to which those in power are subjected. Transparency is 'the conduct of public affairs in the open or otherwise subject to public scrutiny', as opposed to 'opaque policy measures, where it is hard to discover who takes the decisions, what they are, and who gains and who loses.'¹⁰⁹ In a transparent system, rules and procedures are followed throughout and information is freely available and directly accessible to the public, especially those who will be affected by such decisions.

¹⁰⁶ Good governance in a democratic sense the latter focuses on the structured relationship between state and non-state actors in the exercise of power and accountability, using human rights and democracy as a benchmark for evaluation; Saunders and Reeve (n 103) 9.

¹⁰⁷ Indeed, for the UNDP 'good governance' and 'democratic governance' are synonyms. United Nations Development Programme, *A guide to the UNDP Democratic Governance practice* (UNDP 2010) <www.beta.undp.org/content/undp/en/home/librarypage/democratic-governance/dg-publications/a-guide-to-undp-democratic-governance-practice-.html> Accessed 10 February 2014.

¹⁰⁸ Baland, Moene, Robinson, 'Governance and Development' in Rodrick, Rosenzweig, *Handbook of Development Economics* (vol 5, Elsevier 2009) 4603, at 4649.

¹⁰⁹ Birkinshaw, 'Freedom of Information and Openness: Fundamental Human Rights' (2006) 58(1) *Administrative Law Review* 189; Black, *Transparent Policy Measures*, *Oxford Dictionary of Economics* (OUP 1997) 476; Aidi, Dutta, Sena, 'Growth, Governance and Corruption in the Presence of Threshold Effects: Theory and Evidence' (2006) Cambridge Working Papers in Economics <<http://econpapers.repec.org/paper/camcamdae/0540.htm>>.

Lack of transparency breeds corruption, a phenomenon that is positively correlated with ineffective government action¹¹⁰ and unsustainable development paths.¹¹¹ Corruption can be political when individuals, groups or firms illicitly influence the decision-making process to their own advantage¹¹² (also called ‘state capture’);¹¹³ or it can be bureaucratic if it influences the implementation and enforcement of the law.¹¹⁴

Finally, governments must be liable to be called to account or to answer for responsibilities and conduct, particularly wrongdoings. The two key dimensions of government accountability are answerability (the right of the governed to make claims and demand a response) and enforceability (mechanisms for sanctioning non-responsiveness).¹¹⁵

The third cluster describes the business environment of developing countries, with a particular emphasis on political stability. It is important because it describes the attractiveness of doing business in REDD-plus countries for international investors and it is thus a good proxy to assess the likelihood and extent of direct participation in the programme by the private sector.

¹¹⁰ Mauro, ‘Corruption and growth’ (1995) 110 Q J Econ 681; Ades, Di Tella, ‘The new economics of corruption: a survey and some new results’ (1997) 45(Special Issue) Polit Stud 496; Lambsdorff, ‘How corruption affects productivity’ (2003) 56(4) Kyklos 457–74; Haque, Knelle, ‘Corruption clubs: endogenous thresholds in corruption and development’ (2009) 10 Econ Gov 345. Some studies, however, suggest that corruption is less detrimental to the economy in countries with a weak institutional framework, also known as the ‘grease-the-wheel’ hypothesis: see Méon, Weill, ‘Is Corruption an Efficient Grease?’ (2010) 38(3) World Development 244; Leff, ‘Economic development through bureaucratic corruption’ (1964) 8(3) American Behavioral Scientist 8.

¹¹¹ Aidt, ‘Corruption, institutions, and economic development’ (2009) 25(2) Oxf Rev Econ Policy 271.

¹¹² Private influence on decision-making is not always illegal. Examples of legal corruption include lobbying contributions by the private sector in exchange of passage of particular legislation or the legal allocation of procurement contracts; Kaufmann, Vicente, ‘Legal corruption’ (2011) 23(2) Economics & Politics 195, at 196.

¹¹³ Hellman, Jones, Kaufmann, ‘Seize the state, seize the day: state capture and influence in transition economies’ (2003) 31(4) Journal of Comparative Economics 751.

¹¹⁴ Mukum Mbaku, ‘Bureaucratic Corruption in Africa: The Futility of Cleanups’ (1996) 6(1) CATO Journal 99, at 99; Bardhan, ‘The economist’s approach to the problem of corruption’ (2006) 34(2) World Development Journal 341, at 341.

¹¹⁵ Newell, Wheeler (eds.), *Rights, Resources and the Politics of Accountability* (Vol. 3, Zed Books 2006) cited in Westholm, Ostwald, Henders, Mattsson, *Learning from Norway: A review of Lessons Learned for REDD+ Donors* (Focali 2011).

The review compares six governance studies: the World Governance Indicators (WGI)¹¹⁶ and the World Development Indicators (WDI),¹¹⁷ prepared by the World Bank; the Corruption Perception Index (CPI)¹¹⁸ and the Government Integrity Index (GII),¹¹⁹ prepared by NGOs; the International Country Risk Guide (ICRG)¹²⁰ and the Euromoney Country Risk (ECR),¹²¹ prepared by commercial providers of business information. The criteria used in the selection of the six studies are: (i) their authority and widespread utilisation; (ii) their representativeness of different interests and subjective conceptions of good governance (i.e. from international organisations, NGOs and the private sector); (iii) their use of different indicators and slightly different foci.¹²²

It is important to note that perception-based governance assessments are vulnerable to bias. The World Bank assessments are criticised for being biased in favour of an idea of good governance which revolves around minimal regulation and strong property rights.¹²³ Kurtz and Schrank argue that most governance assessments carried out through voluntary surveys are also affected by the same pro-business bias, as was also evident in a UN-commissioned review of public governance

¹¹⁶ ‘Worldwide Governance Indicators’ (World Bank 2013) <<http://data.worldbank.org/data-catalog/worldwide-governance-indicators>> Accessed 8 February 2014.

¹¹⁷ ‘World Development Indicators 2013’ (World Bank 2013) <<http://wdi.worldbank.org/table/5.9>> Accessed 8 February 2014.

¹¹⁸ ‘Corruption Perceptions Index: Corruption around the world in 2013’ (Transparency International 2013) <<http://cpi.transparency.org/cpi2013>> Accessed 8 February 2014.

¹¹⁹ ‘Global Integrity Report: 2010 Integrity Indicators Data’ (Global Integrity 2011) <<https://www.globalintegrity.org/downloads>> Accessed 8 February 2014.

¹²⁰ ‘International Country Risk Guide, January 2011’ (PRS 2011) <http://www.prsgroup.com/ICRG_TableDef.aspx> Accessed 8 February 2014.

¹²¹ ‘Country risk September 2010: Full results’ (ECR 2010) <www.euromoney.com/Article/2675660/Country-risk-September-2010-Full-results.html> Accessed 8 February 2014.

¹²² Each study focuses on a set of indicators that are finalised to providing information on a specific issue, e.g. assessing aid effectiveness, risks to international investments, or a country’s political situation; the following indicators, however, came up consistently in virtually all considered studies: participation, corruption, transparency, accountability, rule of law, political stability, bureaucratic capacity and regulatory quality. For a description of the scope, purpose and methodology of each study see Annex B.

¹²³ Powell, ‘The World Bank Policy Scorecard: The New Conditionality?’ (Bretton Woods Project 2004) <www.brettonwoodsproject.org/doc/knowledge/cpia.PDF> Accessed 21 November 2013.

indicators.¹²⁴ For instance, measures that impose taxes or regulatory demands ‘are likely to be judged burdensome and growth-inhibiting’ by many survey respondents despite their overall positive impact, and this introduces systematic bias in an assessment of governance that should be independent of policy choices.¹²⁵ According to Seligson, surveys may also be affected by the economic performance of a country, with a government being assessed more positively in favourable economic times regardless of its actual performance.¹²⁶ In the case of corruption, the validity of the sources, cultural differences and samples that focus on business excluding women and the poor also cast doubts on the objectivity of these studies.¹²⁷ Concerns over systematic bias, cultural differences and subjective methodology advise against placing excessive emphasis on the quantitative estimate *per se*. With this caveat, there is reason to believe that a comparative review of six assessments provides a reliable picture of a country’s governance by mitigating excessive bias and methodological errors that may affect a single study.

The short summary below provides a snapshot of the governance situation across the developing world. More detailed information on the assessments, including individual country results, and a definition of scores and criteria, can be found in Annex B.

(i) Government openness

Developing countries generally have a very poor record in terms of participation, transparency and accountability, and corruption. The Global Integrity Indicators indicate that out of 22 countries considered only two have strong transparency and accountability, four have a score of ‘moderate’ and 16 are equally split between weak and very weak integrity. Interestingly, the study shows that the problem does not lie in the deficiency of the legal framework but rather in its inconsistent

¹²⁴ Kurtz, Shrank, ‘Growth and Governance: Models, Measures and Mechanisms’, (2007) 69 (2) J. of Politics 542; UNDESA, *Public Governance Indicators: A Literature Review* (2007) UN Doc ST/ESA/PAD/SER.E/100, p. 1.

¹²⁵ Kurtz and Schrank, *Ibid.*

¹²⁶ Seligson, ‘The Measurement and Impact of Corruption Victimization: Survey Evidence from Latin America’ (2006) 34 (2) World Development 381, at 385.

¹²⁷ Galtung, ‘Measuring the Immeasurable: Boundaries and Functions of (Macro) Corruption Indices’ in Ashaklock, Connor, *Measuring Corruption* (Ashgate 2007) 111-2.

application. Five out of 20 countries show a 'huge' gap in the implementation and enforcement of transparency, accountability and anti-corruption legislation, six a 'very large gap', eight a 'large' gap and one a 'moderate' gap. The World Governance Indicators assessment of transparency and accountability found that of the 35 countries considered none has a satisfactory situation, seven have a mediocre situation, 17 a bad situation, seven a very poor situation and four an extremely poor one.

With regard to corruption, the WGI assesses the extent to which public power is exercised for private gain, including both petty and grand forms of corruption as well as "capture" of the state by elites and private interests. Out of the 35 sampled countries, seven have an extremely poor corruption record, seven have a poor one, 11 a bad record, four a mediocre one and only one country is assessed as 'good' (Botswana). The findings are similar to those published by Transparency International in its Corruption Perception Index for 2013: out of the 35 countries considered, 15 are among the 50 most corrupt countries in the world, a further nine are among the 80 most corrupt and only one is in the 50 least corrupt countries in the world (Botswana) with the others in the middle. An indirect measure of corruption is provided by the GII's assessment of the gap in the implementation of good governance and anti-corruption legislation. It indicates that out of 23 countries, five have a very weak anti-corruption legal framework, seven a weak one, seven a moderate one, two a strong one and two a very strong one. Moreover, there is a huge gap in the implementation of anti-corruption laws in six countries, a very large one in six countries, a large one in seven countries and a moderate gap in one country. No country has a small or very small implementation gap, meaning that even in those cases where the legal framework is moderately strong, corruption in practice is a major problem.

(ii) Government capacity

The capacity of REDD-plus country governments to develop, implement and enforce sound policies, plans and programmes is also very poor. The WDI found that public sector capacity is overall unsatisfactory. No government of the 22 countries considered reaches a satisfactory result, with eight countries rating as thoroughly unsatisfactory and only two as almost satisfactory. The WGI rates government

effectiveness as ‘extremely poor’ in four countries, ‘very poor’ in 16, ‘bad’ in nine, ‘mediocre’ in five and ‘good’ in one.

Two basic criteria to assess government capacity are the quality of its laws and the capacity to enforce them so as to generate a general expectation about their peremptoriness. The WGI found that in no country is regulatory quality ‘good’ or ‘very good’; instead, it is ‘extremely poor’ in six out of 35 REDD-plus countries, ‘very poor’ in eight, ‘bad’ in 13 and ‘mediocre’ in eight. It also finds that the rule of law is in no cases ‘good’ or ‘very good’: in six countries the situation is ‘mediocre’, in 11 it is ‘poor’, in 12 ‘very poor’ and in six ‘extremely poor’.

Another governance criterion that can be used to understand government capacity and effectiveness is political stability. It is clear, in fact, that only stable governments can build the expertise, practices and institutional and regulatory framework to consistently implement their policy (in this case REDD-plus) across sectors and levels. In this category, too, very little good news emerges for REDD-plus. For the WGI, political stability (i.e. the likelihood that the government will not be destabilized or overthrown by unconstitutional or violent means) is ‘extremely poor’ in five countries; ‘very poor’ in 9, ‘bad’ in 12, and ‘mediocre’ in four.

(iii) Risk of doing business

Finally, the risk of doing business in prospective REDD-plus countries is also high, although the providers of information on governance for the private sector give a somewhat less dramatic picture of the situation. The International Country Risk Guide states that, in 2011, out of 30 REDD-plus countries none has a very low risk for investment, only four are low-risk, 11 have moderate risk, 13 have high risk and three very high risk. The Euromoney Country Risk (ECR) finds that out of 35 REDD-plus countries none belongs to group of political stable and predictable countries, two countries are moderately stable but moderately unpredictable countries, 17 belong to the group of moderately unstable countries with unpredictable governments and 10 to the group of highly unstable and unpredictable countries. This slightly better assessment is perhaps due to the fact that political instability does not necessarily threaten international investments unless it involves a

radical change of regime, and that extractive industries (prevalent in REDD-plus countries) tolerate corruption better than most other businesses.¹²⁸ However, this entails that investors will seek higher-than-average returns from their investments in virtually all REDD-plus countries, making REDD-plus less cost-effective. Moreover, these assessments do not include reputational risks that may derive from problems of corruption or the breach of human rights that may happen in such countries, and which would be particularly damaging for firms working on REDD-plus.

This chapter has shown that environmental degradation is as much a failure of the market as it is a failure of the State. In fact, if forest loss is driven by market demand for, *inter alia*, timber and agricultural commodities (and the contextual failure to recognise the value of environmental services), its impact is determined by the manner in which developing countries respond to external and internal economic pressures.

The multi-level nature of drivers makes matters particularly complicated for the State. Given the economic relevance of deforestation-related activities, the State seems to have little room to restrain economic activity on environmental grounds using command-and-control regulations without hurting development. This is particularly so in developing countries, where poor public sector governance has led to an inefficient and disorderly organisation of economic activities and to increased environmental harm. Additionally, governments have *de facto* little control over the action of subnational actors due to their poor capacity to monitor and enforce environmental legislation.

Addressing the causes of global forest emissions therefore requires addressing both market and State failures. The next chapters will look at how REDD-plus ‘positive incentives’ and ‘policy approaches’ are responding to these problems.

¹²⁸ O’Higgins, ‘Corruption, Underdevelopment, and Extractive Resource Industries: Addressing the Vicious Circle’ (2006) 16(2) *Business Ethics Quarterly* 235; Kolstad, Wiig, ‘Digging in the dirt? Extractive industry FDI and corruption’ (2013) 14(4) *Economics of Governance* 369.

Deforestation in international environmental law: REDD-plus and the rise of incentives instruments

This chapter considers the international legal response to the problem of forest loss, comparing REDD-plus to previous legal initiatives. Section 3.1 briefly reviews past international instruments and tries to identify the reasons for their ineffectiveness. Section 3.2 introduces the main elements of REDD-plus' 'positive incentives', showing how they fit within a general trend towards market-based environmental policy. Section 3.3 asks whether a multi-level governance framework built on financial incentives can tackle the economic causes of forest loss without addressing the gap in public governance.

3.1. Forests in international environmental law: turning to the market?

Tropical deforestation is considered a common concern of mankind,¹ but international efforts to address this problem have so far floundered. While forests are an important carbon sink, their worth to humans is much greater than their contribution to climate change mitigation.² The Millennium Ecosystem Assessment identified four types of ecosystem services:³ (a) provision of food, fuel and fibre for human consumption (provisioning services); (b) direct support for human economic

¹ Sands (ed.), *Greening International Law* (Earthscan 1993) 59; Brunnée, Nollkaemper, 'Between the forests and the trees – an emerging international forest law' (1996) 23(4) *Env Conserv* 307, at 308.

² This discussion does not consider the intrinsic value of the species and organisms that make up the forest ecosystems, but only their instrumental worth to humans. For a discussion on the value of nature, see: Bowman, 'Biodiversity, Intrinsic Value and the Definition and Valuation of Environmental Harm', in: Bowman, Boyle, *Environmental Damage in International and Comparative Law: Problems of Definition and Valuation* (OUP 2002) 41.

³ Millennium Ecosystem Assessment, *Ecosystems and Human Well-being: Synthesis* (Island Press 2005) vi.

activities (supporting services); (c) processes controlling the climate and the flow of water (regulating services); (d) services that support human relations (cultural services). Forests provide services from all these categories, as seen in table 2 below.

Table 2: Ecosystem services provided by forests⁴

Provisioning	Supporting	Regulating	Cultural
Food (fruits, nuts, forest animals); fresh water; fuel, wood and fibre; non-timber forest products; silk, rubber, bamboo; genetic resources; biochemical or natural medicines, habitat for humans	Soil formation and erosion prevention; nutrient cycling through atmosphere, plants and soils; primary production, habitat for predator-prey relationships and ecosystem resilience	Water purification; climate regulation; flood and drought regulation; pollination; carbon sequestration	Aesthetic; spiritual; educational; recreational; tourism; inspirational

The truism that forests are much more than reservoirs of carbon is relevant to this discussion in two ways. The first is that REDD-plus does not operate in a *consequential vacuum*: reducing forest emissions is a complex endeavour which can have considerable benefits beyond carbon sequestration and storage, but also negative consequences on other services.⁵ In order to maximise the provision of all services, REDD-plus activities must follow ecological criteria. Moreover, humans have adapted to the local environment so as to maximise the environmental services they benefit from. About 350 million of the world's poorest people rely heavily on forests for their subsistence and survival, including over 60 million indigenous people, while 1.2 billion people in developing countries depend on them for

⁴ Adapted from: Gupta, van der Grijp, Kuik (eds.), *Climate Change, Forests and REDD: Lessons for Institutional Design* (Routledge 2013) 8.

⁵ For instance, replacing degraded natural forests with fast-growth plantations may have some climate benefits but would hamper many provisioning, supporting and cultural services. World Bank, *Forests Sourcebook: Practical Guidance for Sustaining Forests in Development Cooperation* (World Bank 2008) 1.

subsistence, as an economic safety net or as a direct source of income.⁶ Any change to the supporting, provisioning, regulating and cultural benefits of forests will impact human activities. Conversely, forest loss is caused by activities that affect economic prosperity and cannot be easily trumped by a superior environmental interest. A realistic consideration of the multiple impacts of REDD-plus activities on the environment, the economy and society is thus in order.

The second, connected argument is that the programme does not operate in a *legal vacuum*. Some of the services provided by forests have been the object of legal protection at the international level. Ecosystem services occur at different scales, from the local (e.g. food, non-timber products, habitat for humans) to the global (e.g. habitat for biodiversity, medicines, carbon sequestration). The level at which these services are received causes the creation of different loci of interests that may conflict and require regulatory intervention.

Indeed, several environmental treaties are concerned in some way with protecting forests. The treaties concluded in the 1970s were influenced by the UN Conference on the Human Environment (UNCHE) and approached forest protection from a conservation perspective.⁷ The 1971 Ramsar Convention established a protective regime that was applicable to forested wetlands;⁸ the 1972 World Heritage Convention secured the protection of sites of outstanding natural value which also included extensive tropical forest areas;⁹ the 1973 CITES strictly regulated international trade in threatened tree species;¹⁰ and the 1979 Bonn Convention has led to the establishment of protected forest habitats for migratory species such as

⁶ Bhargava, *Global issues for global citizens: an introduction to key development challenges* (World Bank 2006) 305-6; Scherr, White, Kaimowitz, *A new agenda for forest conservation and poverty reduction: making markets work for low-income producers* (Forest Trends 2003) 6.

⁷ UNCHE saw the participation of 113 countries, 19 intergovernmental agencies and hundreds of NGOs, and it is widely regarded as the birthmark of the modern environmental movement. Its main outcome document is the Declaration of the United Nations Conference on the Human Environment (adopted 16 June 1972) 11 ILM 1416.

⁸ Convention on Wetlands of International Importance especially as Waterfowl Habitat (adopted 16 November 1971, entered into force 17 December 1975) 996 UNTS I-14583.

⁹ Convention for the Protection of the World Cultural and Natural Heritage (adopted 16 November 1972, entered into force 17 December 1975) 1037 UNTS 151.

¹⁰ Convention on International Trade in Endangered Species of Wild Fauna and Flora (adopted 3 March 1973, entered into force July 1975) 933 UNTS I-14537.

gorillas and elephants.¹¹ By contrast, the treaties concluded in the 1990s took a more anthropocentric approach consistent with the landmark UN Conference on Environment and Development (UNCED),¹² emphasising the role of forest resources in promoting sustainable development. The 1992 UN Convention on Biological Diversity (CBD) requires countries to protect ecosystems¹³ – including forest ecosystems - in order to achieve the ‘conservation of biological diversity, the sustainable use of its components and the fair and equitable sharing of the benefits arising out of genetic resources’.¹⁴ The 1994 UN Convention to Combat Desertification (UNCCD) recognises the important role of reducing deforestation to tackle land degradation and desertification, and demands addressing forest conservation in national plans.¹⁵

The only legally-binding instrument entirely dedicated to forests is the International Tropical Timber Agreement (ITTA).¹⁶ The ITTA is not an environmental treaty but a commodity agreement concluded under the auspices of the UN Commission on Trade and Development. It is aimed at improving cooperation and trade in tropical timber between developing country exporters and industrialised country importers; the treaty merely *encourages* reforestation and the ill-defined *sustainable utilisation* of timber resources, but it has had a marginal impact on conservation. To date, no

¹¹ Convention on the Conservation of Migratory Species of Wild Animals (adopted 23 June 1979, entered into force 1 November 1983) 1651 UNTS 28395.

¹² UNCED, also known as the World Summit on Sustainable Development, the Rio Conference and the Earth Summit, was organised on the 20th anniversary of the Stockholm Conference. It saw the participation of 172 governments and over 2,400 NGOs. *Report of the UN Conference on Environment and Development* (13 June 1992) UN Doc A/CONF.151/26 (Vol. I-III).

¹³ United Nations Convention on Biological Diversity, Rio De Janeiro, 5 June 1992 (in force 29 December 1993) 1760 UNTS 79, article 8.

¹⁴ *Ibid* article 1.

¹⁵ United Nations Convention to Combat Desertification (adopted on 17 June 1994, entered into force 26 December 1996) 1954 UNTS 3 (UNCCD), Annex I, article 8(3), Annex II article 2(b), Annex III article 4, Annex IV article 6.

¹⁶ The ITTA established the International Tropical Timber Organization (ITTO) in order to administer and review the Agreement; International Tropical Timber Agreement (adopted 27 January 2006 entered into force 7 December 2011) UN Doc TD/TIMBER.3/12.

binding international instrument is dedicated to the protection and sustainable management of forests specifically.¹⁷

Political will to conclude a binding treaty arose in the 1980s, as tropical deforestation accelerated dramatically and the phenomenon began to acquire international relevance alongside other global environmental problems such as desertification, overfishing, biodiversity loss, oil spills, acid rain and other transboundary atmospheric pollution.¹⁸ Expectations, certainly in the North, were that a legal framework on forests would have been concluded at UNCED, but negotiations on deforestation were hijacked by the developing countries' requests to include all types of forests in the agreement, to ban any 'disguised' trade barrier on timber production from rainforests, and receive large-scale financial assistance. The Conference only produced a non-binding instrument known as the Forest Principles¹⁹ and guidelines on forest management and conservation in the Agenda 21 action plan.²⁰ The Forest Principles reaffirmed the sovereign right of all countries to exploit their own resources and, it is submitted, served to stigmatise any attempt to legislate internationally on tropical forest protection.²¹

The failure of Rio in this regard tainted international cooperation on forests throughout the 1990s and early 2000s.²² Discussions continued in a number of international fora but with limited success. In 1995, the Commission on Sustainable

¹⁷ See Hornborg, McNeill, Alier, *Rethinking environmental history: world-system history and global environmental change* (Rowman Altamira 2007); Williams, *Deforesting the Earth: From Prehistory to Global Crisis, An Abridgment* (University of Chicago Press, 2006).

¹⁸ The 1980s had seen the emergence of the first international initiative dedicated to forest protection, which was promoted by the World Bank, FAO, UNDP and the NGO World Resources Institute: the Tropical Forests Action Plan (TFAP). Concluded in 1985, the TFAP presented a conceptual framework for action to tackle uncontrolled deforestation by supporting the creation of national plans for conservation and management, but its technocratic approach, sectoral scope, lack of resources and general disregard for governance problems greatly limited its effectiveness. Gupta et al (n 4) 11; Winterbottom, 'The Tropical Forestry Action Plan: Is it Working?' (1995) 15(1) NAPA Bulletin 60.

¹⁹ Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests (adopted 14 August 1992) 31 ILM 881.

²⁰ *Report of the UN Conference on Environment and Development* (13 June 1992) UN Doc A/CONF.151/26, Chapter 11: Combating deforestation.

²¹ "States have the sovereign and inalienable right to utilize, manage and develop their forests [...] including the conversion of such areas for other uses within the overall socio-economic development plan and based on rational land-use policies' UNCED (n 12) principle 2(a).

²² Birnie, Boyle, Redgwell, *International Law and the Environment* (3rd ed., OUP 2009) 695.

Development established the Intergovernmental Panel of Forests which met four times and was then replaced in 1997 by the Intergovernmental Forum on Forests and finally by an intergovernmental body called the United Nations Forum on Forests (UNFF) in 2000.²³ Another attempt to negotiate a forest treaty was quickly dismissed in 1997. Such bodies were tasked with advancing the international discussions on forests with a view to concluding a binding agreement, but after twelve years all they could achieve was another soft law instrument in 2007.²⁴ The UNFF has not given up on its ambition to facilitate the conclusion of a binding treaty on forests, but international discussions have been postponed to 2015 and at this stage the prospects for a global forest treaty are as bleak as ever.²⁵

Despite the great number of international instruments bearing on forest protection, the lack of a specific substantive requirement for conservation and sustainable management (either in binding or non-binding form) leaves little doubt that international law has so far failed to protect the forests effectively. Such failure has many causes. The political and economic importance of forest exploitation was certainly decisive. Resource nationalism entered the political manifesto of developing countries anxious to affirm their sovereignty²⁶ and to boost their economic development.²⁷ At the same time, developed countries' main justification for international legislation did not rest on arguments about transnational impacts that had motivated much of previous international environmental law. And even

²³ See Humphreys, 'Forest negotiations at the United Nations: explaining cooperation and discord' (2001) 3 FORPOL 125; Chaytor, 'The Development of Global Forest Policy: Overview of Legal and Institutional Frameworks' (2001) 3 MMSD; MacKenzie, 'Lessons from Forestry or International Environmental Law' (2012) 21(2) RECIEL 114.

²⁴ UNGA Res 62/98 (17 December 2007) UN Doc A/RES/62/98.

²⁵ MacKenzie (n 23) 115.

²⁶ See, for example, UNGA Res 626 (VII) (21 December 1952) UN Doc A/2361; UNGA Res 1515(XV) (15 December 1960) UN Doc A/4648; UNGA Res 1803(XVII) (14 December 1962) UN Doc A/5217; UNGA Res 3016(XXVII) (18 December 1972) UN Doc A/8963; International Covenant on Civil and Political Rights (adopted on 19 December 1966, entered into force 23 March 1976) 999 UNTS 171, art 1(2); International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS 3, art 1(2); UNGA Res 3281(XXIX) (12 December 1974) 29 UNGAOR Supp No 31.

²⁷ The right to development has also been reiterated in several regional and global instruments, including: UNGA Res. 41/128 (4 December 1986); UNGA, Vienna Declaration and Programme of Action (adopted 12 July 1993) 32 ILM 1661; Rio Declaration on Environment and Development (adopted 14 June 1992) 31 ILM 874. However, it is uncertain whether such right is attributable to individuals, peoples or States; Sands, *Principles of international environmental law* (2nd ed., CUP 2009) 55.

among developed nations, consensus on the use of legally binding instruments was weak.²⁸

The repeated failures to achieve prescriptive regulations in international forestry left space for the emergence of alternative approaches. The 1990s saw the expansion of environmental regulatory instruments consistent with the political ideology of neoliberalism,²⁹ which by the early 1990s was dominating the international political discourse.³⁰ Neoliberalism applied to international environmental law has three central tenets: voluntary compliance as opposed to binding obligations, property rights over nature as opposed to public goods, and the use of market incentives as opposed to top-down regulation.³¹ Drawing a parallel between domestic and international contexts, some authors have used an evolutionary, almost Aristotelian explanation for the blooming of economic incentives in environmental law, seeing their diffusion as a response to the intrinsic limits of command-and-control instruments.³² This approach was a powerful antidote to the lack of ‘coercive fiat’ in the international legal system,³³ as well as to the inefficacy and inefficiency of centralised regulation.³⁴

Economic concepts surfaced in the 1992 Forest Principles’ encouragement of the “incorporation of environmental costs and benefits into market forces and

²⁸ For instance, in the negotiation that led to the 2007 Non-legally Binding Instrument, the US opposed time bound and quantifiable deforestation reduction targets and even compulsory national reports; Humphreys, *Logjam: Deforestation and the Crisis of Global Governance* (Earthscan 2006) 112, cited in Humphreys, ‘Discourse as ideology: Neoliberalism and the limits of international forest policy’ (2009) 11 FORPOL 319, at 323.

²⁹ For a good summary see Anderson, Leal, *Free market environmentalism* (Revised ed., Palgrave 2001); Castree, ‘Neoliberalising nature: the logics of deregulation and reregulation’ (2008) 40 *Env and Plan A* 131

³⁰ Born as a radical economic theory from thinkers such as Friedrich Hayek and Milton Friedman, neoliberalism gained importance and credibility as a political ideology under the leadership of Ronald Reagan in the US and Margaret Thatcher in the UK; Jones, *Masters of the Universe: Hayek, Friedman, and the Birth of Neoliberal Politics* (Princeton University Press 2012).

³¹ Humphreys (2009, n 28) 320.

³² Busch, Jorgens, Tews, ‘The Global Diffusion of Regulatory Instruments: The Making of a New International Environmental Regime’ (2005) 598 *Annals* 145.

³³ Wiener, ‘Global Environmental Regulation: Instrument Choice in Legal Context’ (1999) 108 *Yale L. J.* 683.

³⁴ The point is illustrated profusely in Anderson and Leal (n 29)

mechanisms, in order to achieve forest conservation and sustainable development”.³⁵ The idea was further developed by the International Panel on Forests which recommended that national forest programmes³⁶ encourage the “incorporation of environmental costs and benefits into market mechanisms, in order to achieve forest conservation and sustainable development”.³⁷ The 2007 non-binding instrument further promotes the “recognition of the range of values derived from goods and services” provided by forests and “ways to reflect such values in the marketplace”.³⁸

Market ideas have found expression in the use of information-based and positive incentive instruments.³⁹ Information-based instruments disclose the environmental performance of products, production processes, services or activities to constituencies (e.g. consumers, investors and government officials) whose decisions influence the profitability of the activity driving forest loss. Of particular note in this context are private sector-led voluntary certification systems, such as the Forest Stewardship Council (FSC) and the Programme for the Endorsement of Forest Certification (PEFC) which promote adherence to high ecological and social standards in the production of timber and non-timber forest products.⁴⁰

By contrast, incentive instruments “impose a price on opportunity cost of each unit of pollution, waste, stress, or resource consumption by regulated actors” leaving “flexibility to determining the quantity of [resource use] as well as the appropriate control measures”.⁴¹ An early example of environmental incentive instruments are payments for ecosystem services (PES), a voluntary mechanism in which “a well-defined ecosystem service, or a land-use likely to secure that service, is being

³⁵ UNCED (n 12) paragraph 13(d).

³⁶ National forest programmes are a tool for the implementation of international forest policy that was particularly popular at the turn of the millennium. See chapter 4 section 3.1.

³⁷ UNIPF, *Report of the Ad-Hoc Intergovernmental Panel on Forests on Its Fourth Session* (1997) UN Doc E/CN.17/1997/12, paragraph 12.

³⁸ UNCED (n 12) paragraph 6(j).

³⁹ Stewart, ‘Instrument Choice’, in: Bodanski, Brunnée, Hey, *Oxford Handbook of International Environmental Law* (OUP 2007) 152.

⁴⁰ ‘Forest Stewardship Council, Who We Are: Global, multi-stakeholder, membership organization’ <<https://ic.fsc.org/about-us.1.htm>> Accessed 9 February 2014; ‘Who we are’ (PEFC) <www.pefc.org/about-pefc/who-we-are> Accessed 9 February 2014.

⁴¹ Stewart (n 39) 151; also see Salzman, ‘Teaching Policy Instrument Choice in Environmental Law: The Five P’s’ (2013) 23(2) *Duke Environmental Law & Policy* 363.

‘bought’ by at least one buyer from at least one provider – if, and only if, the provider secures the provision of the service.’⁴² PES mechanisms have been used in several countries to provide financial support for forest protection.⁴³ These developments are part of a broader shift of forest policy away from prescriptive regulations and towards a neoliberal model of environmental governance that lend support to Rhodes’ theory of the hollowed-out State. REDD-plus fits into this trend.

3.2. The international regulatory framework for REDD-plus: the provision of ‘positive incentives’

3.2.1. Forests in the Kyoto Protocol

Positive incentive instruments found expression in the climate change regime too. The Kyoto Protocol introduced three flexibility mechanisms that Annex I countries can use to reduce their emissions. Article 12 establishes the clean development mechanism (CDM), which allows developed countries (and authorised subnational entities) to meet their quantified emission reduction or limitation targets (the national ‘cap’ on emissions) by financing emission reduction or removal projects in developing countries.⁴⁴ These projects generate certified emission reductions (CERs) that are transferred to the developed country and used by the latter to offset domestic emissions. Article 6 establishes the joint implementation (JI) mechanism, which generates emission reduction units (ERUs) for developed States from activities carried out in countries in transition and other ‘capped’ States. CERs, ERUs and unused emission allowances (or ‘carbon credits’) can also be bought and sold

⁴² Wunder, ‘Payments for environmental services: some nuts and bolts’ (CIFOR 2005) 3.

⁴³ Successful examples of large-scale PES mechanisms can be found in Costa Rica, Mexico, and the US, and include ecosystem services such as freshwater production and carbon sequestration. These schemes will be looked at in more detail in chapter 7 section 2.

⁴⁴ As seen in chapter 1, such cap is established under article 3(1) and it is detailed in Annex B of the Kyoto Protocol. Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entered into force 16 February 2005) 37 ILM 22.

between operators under the emission trading system (also called ‘carbon market’),⁴⁵ established under article 17.

CERs and ERUs can be generated by forestry projects. These mechanisms permit to reduce emissions where it is cheaper to do so, increasing the cost-effectiveness of mitigation activities in Annex I countries. Moreover, they also function as a positive incentive instrument which actors in non-Annex I countries can voluntarily adhere to if they want to reduce their carbon footprint. In this sense, the mechanism is akin to a multi-level PES in which the developing country entity is the seller, the developed country entity the buyer and carbon sequestration is the ecosystem service transacted. However, while in domestic PES mechanisms providers and buyers are located in the same jurisdiction (sometimes in the same location) and payments can be based on either the actions of the service provider or indirect ecological indicators,⁴⁶ under the CDM and JI the parties operate in different countries and the services transacted are intangible and difficult to measure.⁴⁷ This requires complex intermediary functions of measurement, reporting and verification (MRV).⁴⁸

There is a fundamental difference in scope between JI and CDM. While ERUs can be generated by afforestation, reforestation, avoided deforestation and improved forest management projects, the COP stipulated that only afforestation and reforestation projects can be included in the CDM.⁴⁹ In countries with no binding cap it is impossible to account for the overall change in forest emissions. In such context,

⁴⁵ Emission reduction or limitation thresholds - also known as ‘caps’ - are established nationally and divided per sector and per each industrial installation.

⁴⁶ Arriagada, Perrings, *Making Payments for Ecosystem Services Work* (UNEP 2009) 3.

⁴⁷ REDD-plus’ activities provide different ecosystem services: reduced deforestation, reduced degradation and sustainable forest management activities generate ‘emission reductions’ (emissions that would have been generated were it not for the prospect of achieving financial compensation under the programme); conservation of carbon stock produces ‘avoided emissions’ (indicating the carbon that could have been emitted had the country a more aggressive forest policy); the enhancement of forest carbon stocks affords ‘emission removals’ (i.e. the value of the carbon that is sequestered in the growth of the planted or regenerated trees). This distinction is only important in the context of determining the methodology used for measuring and verifying the validity of the offset. For the sake of simplicity this thesis will refer to emission reductions to include also avoided emissions, consistent with the terminology used in the literature.

⁴⁸ Under the CDM this functions are carried out by an independent international body called Executive Board. UNFCCC, COP Decision 3/CMP.1 (2005) UN Doc FCCC/KP/CMP/2005/8/Add.1, Annex, paragraphs 5-19.

⁴⁹ UNFCCC COP Draft decision -/CMP.1, Land use, land-use change and forestry (2001) UN Doc FCCC/CP/2001/13/Add.1, Annex, paragraph 13.

only the additionality of afforestation and reforestation projects (that remove carbon from the atmosphere) can be ensured, while that of avoided deforestation and forest management projects remains uncertain due to problems of ‘leakage’ (or ‘displaced emissions’) and ‘non-permanence’ (or ‘emission reversals’).⁵⁰ Leakage is the “unanticipated loss of net carbon benefits as a consequence of the implementation of the project activities”:⁵¹ for instance, if the CDM protects a forest that is under the threat of logging, loggers can simply increase their production from outside the project boundaries negating the overall mitigation impact of the activity. Non-permanence describes a situation in which emission reductions and sequestrations that are compensated using results-based payments are subsequently reversed because the forest is removed due to human or natural causes.

As land-use emissions come mostly from ongoing deforestation activities in developing countries, the narrow scope of the CDM greatly limited the Kyoto Protocol’s impact in this sector. A new mechanism was needed.

3.2.2. REDD-plus: objective and approach

REDD-plus aims to “slow, halt and reverse forest cover and carbon loss” in developing countries.⁵² This goal is to be achieved ‘collectively’, thus maintaining an element of flexibility that allows differentiation between historically high emitters (who will bear most of the burden) and countries with low forest emissions.⁵³ The programme supports a wider range of activities than the CDM:⁵⁴ (a) reducing emissions from deforestation; (b) reducing emissions from forest degradation; (c) conservation of forest carbon stocks; (d) sustainable management of forests; and (e)

⁵⁰ UNFCCC COP Decision 5/CMP.1 (2005) UN Doc FCCC/KP/CMP/2005/8/Add.1, Annex, paragraph 37.

⁵¹ Auckland et al. ‘A conceptual framework and its application for addressing leakage: the case of avoided deforestation’ (2003) 3 Climate Policy 123, at 124–5.

⁵² UNFCCC COP Decision 1/CP.16 (2010) UN Doc FCCC/CP/2010/7/Add.1.

⁵³ This caveat is equitable because it rewards ‘good’ states and requires a major effort from those who benefited from deforestation, and pragmatic because the heaviest polluters can as a rule more easily reduce deforestation.

⁵⁴ UNFCCC (n 52) paragraph 70.

enhancement of forest carbon stocks.⁵⁵ Consistent with the principle of Common but Differentiated Responsibilities enshrined in the Convention,⁵⁶ developing countries' participation and compliance are voluntary (i.e. no sanctions are imposed for failing to reduce forest emissions)⁵⁷ and depend on "national circumstances, capacities and capabilities of each developing country Party and the level of support received".⁵⁸ By contrast, developed countries commit to providing "adequate and predictable" support for REDD-plus actions, although it is unclear what such level should be.⁵⁹

Aside from capacity-building and technology development and transfer, support should be largely provided in the form of results-based, *ex post* financial payments for emission reductions that are measured, reported and verified in much the same way as under the CDM. It has also been assumed that, similarly to the CDM, REDD-plus activities would generate emission reductions certificates that can be used as carbon offsets in developed countries.⁶⁰ More specifically, the greenhouse gases that are not emitted by deforestation and degradation activities (emission reductions) or that have been sequestered through reforestation and restoration (emission removals) are sold to polluting entities in developed countries, creating a virtual

⁵⁵ Enhancement of forest carbon stocks includes forest restoration, afforestation and reforestation.

⁵⁶ This is one of the founding principles of the Framework Convention, affirmed in article 3(1); it gives rise to differential obligations for developed and developing countries and it underpins a number of provisions on financial assistance, such as those contained in articles 4(3), 4(4), 4(5) and 11. Its application has been justified largely on the bases of two considerations: (a) that industrialised nations must take the lead in mitigating climate change because they are most responsible for causing it, and (b) that they must assist developing countries' efforts to reduce their emissions because they have more capacity to do so. See Rajamani, 'The Principle of Common but Differentiated Responsibility and the Balance of Commitments under the Climate Regime' (2000) 9(2) RECIEL 120; French, 'Developing States and International Environmental Law: the Importance of Differentiated Responsibilities' (2000) 49 ICLQ 35; Brunnée, Streck, 'The UNFCCC as a negotiation forum: towards common but more differentiated responsibilities' (2013) 13(5) Climate Policy 589.

⁵⁷ UNFCCC (n 52) paragraph 70.

⁵⁸ *Ibid*, paragraph 74. Consistently with the above, REDD-plus will likely be part of "nationally appropriate mitigation actions" (NAMAs) which are voluntary actions taken by developing countries "in the context of sustainable development" in order to achieve "a deviation in emissions relative to 'business as usual' emissions"; *ibid*, paragraph 48.

⁵⁹ UNFCCC (n 52) paragraphs 71 and 97. Also note that paragraph 97 decides that "scaled-up, new and additional, predictable and adequate funding *shall* be provided to developing country Parties" (emphasis added). This must be "in accordance with the relevant provisions of the Convention" which are yet to be decided.

⁶⁰ UNFCCC, Reducing emissions from deforestation in developing countries: approaches to stimulate action - Submissions from the Governments of Papua New Guinea and Costa Rica (2005) UN Doc FCCC/CP/2005/MISC.1.

marketplace of carbon offsets (the primary market). Offsets are then used by industrial installations in developed States to meet their emission reduction targets or, if a cap-and-trade system is in operation, they are exchanged in an emission trading scheme (the secondary market).⁶¹

However, as said above, measuring emission reductions is more complicated than removals. Emission reductions result from the difference between the actual emissions and a hypothetical expected level of emissions under a business-as-usual scenario, called ‘forest reference level’ or ‘forest reference emission level’ (from now on ‘reference level’ or ‘baseline’).⁶² Unsurprisingly, the calculation of the hypothetical reference level has raised much methodological and political controversy.⁶³ Eventually it was decided at Warsaw in 2013 that reference levels will be submitted by developing countries using agreed international guidelines and then technically assessed by independent experts.⁶⁴

Previously, it had also been decided that problems of leakage and permanence, which are especially acute at sub-national level,⁶⁵ would be resolved by setting the

⁶¹ In cap-and-trade systems, operators who do not meet their emission limit can purchase emission allowances (also called carbon credits) from operators within their jurisdictions who reduce their emission below their prescribed cap, or they can buy carbon offsets from emission reduction projects outside the jurisdiction. The first and largest carbon market in operation is the European Union’s Emissions Trading Scheme (EU-ETS).

⁶² ‘Reference emission levels’ considers the net changes in carbon stocks for specific periods, while ‘reference levels’ measure the total carbon stock in a forest during a specific period rather than the changes (the first is known as flow-based and the second as stock-based accounting). Flow-based accounting would be more appropriate for countries with historically high emissions, while stock-based accounting would be more useful in the case of conservation of forest carbon. To simplify the discussion, the more informal and generic term ‘reference level’ is preferred here; for a discussion, see Chagas et al, *Reference Levels: Concepts, Functions, and Application in REDD+ and Forest Carbon Standards* (Climate Focus 2013).

⁶³ Gupta et al (n 4) 85. Also see: Angelsen et al, *Modalities for REDD+ Reference Levels: Technical and Procedural Issues* (Meridian Institute 2011).

⁶⁴ UNFCCC COP Decision 13/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1.

⁶⁵ Leakage can also occur at larger scales through international market, but its effect is more limited. The theory is that reduced production of a forest commodity caused by REDD-plus would increase international commodity prices and, indirectly, on the profitability of deforestation/degradation activities across the globe; Strassburg et al, ‘Reducing emissions from deforestation: the “combined incentives” mechanism and empirical simulations’ (2008) 19(2) *Glob Env Ch* 265; Schwarze, Niles, Olander, ‘Understanding and Managing Leakage in Forest-Based Greenhouse Gas Mitigation Projects’ (2002) 360 *Phil. Trans. R. Soc. Lond. A* 1685.

reference level at national scale.⁶⁶ However, as project activities are easier to implement than national-scale ones, observers proposed a system to ‘nest’ small-scale activities (supported by private sector funding) with national implementation. Subnational (project-level and jurisdiction-level) REDD-plus activities are individually rewarded for emission reductions achieved below their own reference level.⁶⁷ But then the host country is only allowed to receive financial payments (e.g. selling carbon offsets) for the emission reductions and removals generated by the sum of individual projects. If national emission reductions are lower than the sum of projects/jurisdictional activities, the government would have the responsibility to make up for the missing credits.⁶⁸

Over the past few years, hundreds of forest projects generated emission reductions that were transacted as carbon offsets in the voluntary carbon market,⁶⁹ with the expectation that they would be accepted under a future compliance market. These efforts spurred considerable analytical effort to find ways to develop solid MRV systems and to link REDD-plus performance at project level with national baselines.⁷⁰ The nested approach is still regarded as ‘mainstream’ by some,⁷¹ perhaps

⁶⁶ UNFCCC COP Decision 4/CP.15 (2009) UN Doc FCCC/CP/2009/11/Add.1, paragraph 7; Grainger, ‘Difficulties in tracking the long-term global trend in tropical forest area’ (2008) 105(2) PNAS 818.

⁶⁷ Pedroni et al, *The ‘Nested Approach’: A flexible mechanism to reduce emissions from deforestation* (CATIE 2007); Angelsen, Streck, Peskett, Brown, Luttrell, ‘What is the right scale for REDD?’, in Angelsen (ed), *Moving Ahead with REDD+: Issues, Options and Implications* (CIFOR, 2008) 34; Cortez et al, *A Nested Approach to REDD+: Structuring Effective and transparent Incentive Mechanism for REDD+ implementation at Multiple Scales* (TNC 2010) 18; Chagas et al, *Nested Approaches to REDD+ An Overview of Issues and Options* (Climate Focus 2010) 30 <<http://theredddesk.org/resources/nested-approaches-redd-overview-issues-and-options>> Accessed 31 January 2014.

⁶⁸ The means by which a government would compensate for missing credits are still unclear. Options include: reducing emissions in other sectors, using carbon credits set aside in a so-called ‘buffer’ (which have been proposed to deal with non-permanence issues in jurisdictional and nested REDD-plus), using insurance mechanisms or even buying the missing credits on the carbon markets.

⁶⁹ A 2012 study counted 451 such projects, which marketed voluntary carbon offsets of a combined value of US\$ 237 million; Peters-Stanley, Hamilton, Yin, *Leveraging the Landscape: State of the Forest Carbon Markets 2012* (Ecosystem Marketplace 2012) i <www.forest-trends.org/documents/files/doc_3242.pdf> Accessed 9 February 2014.

⁷⁰ A number of standards to measure and verify forest emissions have been developed that give credibility to the voluntary carbon market. Some of these are sufficiently rigorous to be used as a model for a future compliance market. See, e.g., VCS, *Jurisdictional and Nested REDD Initiative: Summary of Technical Recommendations, Version 2.0* (Voluntary Carbon Standard 2012); CAR, *Forest Project Protocol, Version 3.3* (Climate Action Reserve 2012).

hoping to retain the engagement of private financial institutions. However, the slow decline of carbon markets casts doubts on the viability of this approach.

3.2.3. Options for the generation and delivery of REDD-plus finance at the international level

The idea that funding will be generated primarily by the sale of offsets in international carbon markets has deeply influenced the discourse around REDD-plus, the on-the-ground preparatory activities, and the technical and analytical work performed by prominent international actors and multilateral institutions. The Doha Decision launched a work programme for the establishment of a framework of approaches to enhance the cost-effectiveness of mitigation actions, including markets, and another to develop a new market mechanism operating under the guidance and authority of the COP.⁷² However there is still no agreement on the establishment of carbon markets, and the move towards a mechanism has lost momentum.

The largest compliance market established under the Kyoto Protocol, the EU ETS, had grown very fast in the years leading to the Protocol's first commitment period (2005-2008), but began declining in 2011 due to the failed attempt to agree on new emission reduction targets at Copenhagen.⁷³ A few months after the Copenhagen debacle, the US Congress rejected a bill that would have established a similar emission trading scheme in the US.⁷⁴ Despite the recent introduction of emissions trading schemes in California⁷⁵ and Australia,⁷⁶ the absence of legally binding international targets has turned the tide against this particular instrument. The option

⁷¹ Karsenty, *Financing options to support REDD+ activities: Based on a review of the literature, Report for the European Commission DG Climate Action* (CIRAD 2012) 32 .

⁷² UNFCCC, COP Decision 1/CP.18 (2012) UN Doc FCCC/CP/2012/8/Add.1, paragraphs 47 and 50.

⁷³ Linacre, Kossoy, Ambrosi, *State and Trends of the Carbon Market 2011* (World Bank 2011) 9-11.

⁷⁴ The American Clean Energy and Security Act of 2009 (H.R. 2454) was approved by the House of Representatives in June 2009 but never had the support of the Senate, where the Democratic majority did not have enough seats to defeat the republican filibuster. Since then, Republican Party has gained seats in the Senate and their anti-climate change agenda has hardened.

⁷⁵ Title 17, California Code of Regulations (CCR), sections 95801-96022, as amended in 2013, unofficial version <www.arb.ca.gov/cc/capandtrade/ctlinkqc.pdf> Accessed 9 February 2014.

⁷⁶ Government of Australia, Clean Energy Act of 2011, No. 131 (2011).

of carbon markets remains in place but UNFCCC Parties are looking for alternative sources of finance.

The decline in private sector finance is in stark contrast with the pledge of US\$100 billion per annum in climate aid made by developed nations at the Copenhagen Conference and reaffirmed in subsequent decisions.⁷⁷ In this uncertainty, the COP has repeatedly affirmed that “finance ... may come from a variety of sources, public and private, bilateral and multilateral, including alternative sources”⁷⁸ and that results-based activities can be supported using market-based and non-market-based approaches.⁷⁹ The COP has not furnished further details on these issues, which are to be further discussed in the run up to COP 21.⁸⁰ It is therefore impossible at this stage to determine what the sources of finance for REDD-plus could be.

Parties’ proposals on alternative sources to carbon markets abound, but none seem to be getting sufficient support. The proposals can be divided between non-market and market-linked mechanisms.⁸¹ Non-market mechanisms include numerous options. A standard option involves contributions from national budgets, with developed nations setting aside large sums for climate mitigation and then delivering them to developing nations bilaterally, through multilateral institutions or via a COP-mandated fund. Typically used in overseas development assistance, budget contributions are financing early REDD-plus activities but it is doubtful that this option will be able to generate ‘adequate and predictable’ support in the long run, as required in the preambular paragraphs of the Cancun and Durban REDD-plus text. Adequacy and predictability may be ensured if funding is based on international binding commitments rather than voluntary contributions. Along these lines, Mexico proposed to establish mandatory contributions based on gross domestic product, greenhouse gas emissions or population, leaving the decision of how to raise the

⁷⁷ UNFCCC COP Draft Decision -/CP.15, Copenhagen Accord (2009) UN Doc FCCC/CP/2009/L.7, paragraph 8.

⁷⁸ UNFCCC COP Decision 2/CP.17 (2011) UN Doc FCCC/CP/2011/9/Add.1, paragraphs 65-66.

⁷⁹ *Ibid*, paragraphs 66-67.

⁸⁰ UNFCCC COP Decision 9/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1, paragraphs 20-21.

⁸¹ Based on: Parker et al, *The little climate finance book: a guide to financing options for forests and climate change* (GCP 2009) 37-8.

money in the first place to donor governments.⁸² However, the idea of a mandatory, relatively fix commitment was opposed by developed nations and is unlikely to make much headway in future discussions. Looking ahead, public sources are thus expected to be complementary rather than predominant sources of finance.

Market-linked mechanisms generate REDD-plus funding from levies targeted to specific markets and sectors. These proposals can be further categorised as mechanisms linked to the carbon market and those linked to other sectors. The carbon market-linked mechanisms raise funds by applying a levy on carbon transactions. Options include levies on international transactions of carbon credits (similar to the two percent levy on CDM transactions that supports the Adaptation Fund),⁸³ the auctioning of assigned amount units (AAUs) for the aviation and marine sectors,⁸⁴ and the auctioning of a progressive percentage of AAUs for all sectors.⁸⁵ Revenues can also be raised via levies and taxes on a market other than the carbon market. This includes a proposal for a global carbon tax, minus a coefficient for the population,⁸⁶ and a levy on specific polluting sectors, such as on bunker fuels or international aviation.⁸⁷ The advantage of these options is that they would also have a double mitigation impact. Alternatively, revenues can be raised from markets that are not linked to greenhouse gas emissions, such as the financial transaction tax

⁸² UNFCCC, Ideas and proposals on the elements contained in paragraph 1 of the Bali Action Plan, Submissions from Parties (2008) UN Doc FCCC/AWGLCA/2008/MISC.2, pp. 40-5.

⁸³ The levy, which represents only two percent of a CER price, raised substantial finance in the period of major activity of the CDM market but declined rapidly in recent years. UNFCCC, COP Decision 10/CP.7 (2002) UN Doc FCCC/CP/2001/13/Add.1, paragraph 2.

⁸⁴ This mechanism was originally proposed by Tuvalu to raise funds for adaptation, but the idea has subsequently been used in the REDD-plus context. UNFCCC, International blueprint on adaptation: Submission from Tuvalu (007) UN Docs FCCC/CP/2007/MISC.2 and FCCC/KP/CMP/2007/MISC.3.

⁸⁵ Commission, 'Addressing the challenges of deforestation and forest degradation to tackle climate change and biodiversity loss' COM (2008) 645/3, p. 10

⁸⁶ Federal Office for the Environment (FOEN), 'Funding Scheme for Bali Action Plan: A Swiss Proposal for global solidarity in financing adaptation' (Berne, 27 May 2008) <http://unfccc.int/files/kyoto_protocol/application/pdf/switzerlandfinancebap091008.pdf> Accessed 9 February 2014.

⁸⁷ The EU had considered introducing a levy or a fuel tax for the aviation sector, but concluded instead that including aviation in its emissions trading scheme was a cheaper option. See: Commission, 'Communication from the Commission to the European Parliament pursuant to the second subparagraph of Article 251 (2) of the EC Treaty concerning the common position of the Council on the adoption of a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community' COM(2008) 221 final.

proposed by the European Commission.⁸⁸ Another proposal, put forward by the Prince of Wales' Rainforest Project and supported by Tuvalu, suggests issuing 'rainforest bonds' in order to mobilise finance from capital markets.⁸⁹ Available market-linked proposals focus on economic sectors that are international in nature, taking therefore a sectoral approach rather than a jurisdictional one.

No more clarity surrounds the way in which REDD-plus finance should be managed under the Convention. Pursuant to the Copenhagen pledge, the Durban COP designated the Green Climate Fund (the 'Fund') as an operating entity of the financial mechanism under Article 11 of the Convention.⁹⁰ The Fund is expected to provide support for, *inter alia*, adaptation and mitigation actions, including REDD-plus through a thematic funding window.⁹¹ It can support many activities, including institutional strengthening, projects and programmes, following a country-driven approach;⁹² financing will be provided in the forms of grants and conditional loans as well as, "where appropriate", results-based payments for verified mitigation.⁹³

Arguably, the Fund will be the main financial entity for REDD-plus *under the control of the COP*. However, it does not address problems of coordination of support affecting current REDD-plus activities. It remains to be seen, in fact, how the Fund will be linked to other sources of REDD-plus finance, a crucial question particularly if developed nations use market instruments. It seems unlikely that private investors will entrust the management of a REDD-plus investment portfolio to an international institution. Given the high volume of transactions involved,⁹⁴ it is also difficult to imagine the Fund operating as a clearing house for REDD-plus or being otherwise involved in market monitoring.

⁸⁸ Commission, 'Proposal for a Council Decision authorising enhanced cooperation in the area of financial transaction tax' COM(2012) 631 final/2.

⁸⁹ Prince's Rainforest Project, *An Emergency Package for Tropical Forests* (Clarence House 2009) 34-9.

⁹⁰ UNFCCC, COP Decision 3/CP.17 (2011) UN Doc FCCC/CP/2011/9/Add.1, paragraph 3.

⁹¹ *Ibid*, Annex, paragraphs 35 and 37.

⁹² *Ibid*, Annex, paragraphs 40-42.

⁹³ *Ibid*, Annex, paragraphs 54-55.

⁹⁴ A clearing house provides clearing and settlement services for commodities derivatives and securities transactions with a view to ensure that both parties to the transaction ensure their respective settlement obligations. These functions are best executed at the national level.

Box 3.1: Non-market finance for REDD-plus

While the UNFCCC negotiations struggled to move the discussion about REDD-plus finance forward, early REDD-plus finance started flowing via bilateral and multilateral channels established on the initiative of some Parties and operating independently from the Convention's financial mechanism (i.e. the Global Environmental Facility). In reality, to date REDD-plus has taken place mostly outside the climate negotiations and quite autonomously. Although these initiatives have an interim nature and are subsidiary to the COP, their work is de facto advancing the REDD-plus agenda outside the climate negotiations and thus it is influencing the development of the programme.⁹⁵

This has generated a fragmented financial landscape. Finance is being disbursed through programmes managed by multilateral institutions, including the World Bank's Forest Carbon Partnership Facility (FCPF), Forest Investment Programme (FIP) and BioCarbon Fund; and the UN-REDD Programme jointly managed by UNEP, FAO and UNDP. These institutions are supporting actions at the national and subnational level that are propaedeutic to the functioning of carbon markets,⁹⁶ or actively experimenting with carbon finance at project level.⁹⁷ On top of this, there are many bilateral and multilateral agreements between developed and developing countries. Of these, the most remarkable is the Government of Norway's International Climate and Forests Initiative, which has committed over US\$3 billion to support REDD-plus readiness and demonstration activities in various countries.⁹⁸

Finally, a number of countries set up a framework called the REDD-plus Partnership, within which they may develop and implement collaborative REDD-plus efforts. The Partnership provides a platform where interested countries can share information and enter into legally binding agreements with each other; such platform 'would be replaced by a future UNFCCC mechanism including REDD-plus'.⁹⁹ The autonomy of these initiatives is not set to continue if REDD-plus does not form part of a broader climate mitigation agreement.

The Doha Decision "recognises the need to improve the coordination of support for the implementation of the activities" and requests the two technical bodies of the

⁹⁵ In fact, the COP recognises the importance of state practice in the formulation of international legislation on REDD-plus. In 2007, COP 13 encouraged Parties 'to explore a range of actions, identify options and undertake efforts, including demonstration activities, to address the drivers of deforestation relevant to their national circumstances'. Similarly, decision 1/CP.16 states that national REDD-plus actions could include demonstration activities (paragraph 73) and that these should be supported 'in particular [by] developed country Parties [...] through multilateral and bilateral channels' (paragraph 76).

⁹⁶ Chapter 4 section 2.

⁹⁷ World Bank, *BioCarbon Fund: Initiative for Sustainable Forest Landscapes* (Warsaw 2013) <<https://wbcarbonfinance.org/Router.cfm?Page=BioCF>> Accessed 9 February 2014.

⁹⁸ Government of Norway, *The Government of Norway's International Climate and Forest Initiative* (Norwegian Government Administration Services 2012).

⁹⁹ REDD+ Partnership (27 May 2010) <www.oslocfc2010.no/pop.cfm?FuseAction=Doc&pAction=View&pDocumentId=25019> Accessed 9 February 2014.

convention¹⁰⁰ to jointly “consider existing institutional arrangements or potential governance alternatives including a body, a board or a committee, and to make recommendations on these matters” to COP 19.¹⁰¹ The Warsaw COP adopted a Decision on coordination of support¹⁰² which invites developing countries to establish national entities or focal points to work as a liaison with relevant bodies “under the Convention”,¹⁰³ but postpones any decision on REDD-plus specific international institutional arrangements to 2017.¹⁰⁴ It is unclear whether the qualification ‘under the Convention’ will include multilateral financial institutions currently working on REDD-plus readiness.¹⁰⁵

3.3. The limits of ‘positive incentives’ and the role of ‘policy approaches’

The use of economic incentive instruments in forest policy has encouraged broad participation from both developed and developing countries,¹⁰⁶ and it has rallied the support of multilateral organisations, conservation NGOs and the private sector. Developed countries are adamant to outsource their emission reduction obligations and to exploit the low opportunity-cost of forest offsets, as argued by the influential ‘Stern Review on the economics of climate change’¹⁰⁷ and subsequently confirmed by several studies.¹⁰⁸ At the same time, the results-based principle ensures that their investments achieve tangible results. Developing countries are enticed by the

¹⁰⁰ These are the Subsidiary Body for Scientific and Technological Advice (SBSTA) and the Subsidiary Body for Implementation (SBI), established under UNFCCC articles 9 and 10 respectively.

¹⁰¹ UNFCCC (n 78) paragraphs 34-35.

¹⁰² UNFCCC COP Decision 10/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1.

¹⁰³ *Ibid* paragraph 2.

¹⁰⁴ *Ibid* paragraph 9.

¹⁰⁵ For now, at least, the COP encourages such institutions to continue their operation. UNFCCC (n 83) paragraphs 5 and 8.

¹⁰⁶ Angelsen, McNeill, ‘The evolution of REDD-plus’, in Angelsen et al, *Analysing REDD+: Challenges and choices* (CIFOR 2012) 32.

¹⁰⁷ Stern, *Stern Review: The Economics of Climate Change* (CUP 2007) 540.

¹⁰⁸ For a review see Fosci, ‘Balance sheet in the REDD+: Are global estimates measuring the wrong costs?’ (2013) 89 *Ecological Economics* 196; also see Lubwosky, *What are the costs and potentials of REDD?*, in Angelsen (ed.), *Moving ahead with REDD* (CIFOR 2008).

promise of considerable financial influxes without the pressure of legally binding commitments which may place excessive constraints on development.¹⁰⁹

However, a sharp ideological divide is still evident in REDD-plus discussions. A common criticism targets carbon offsetting, deemed incompatible with the steep emission cuts in developed countries needed to prevent dangerous climate change.¹¹⁰ Other criticisms focus on the danger that exercising property over forest carbon could lead to land grabs and the *de facto* eviction of forest stakeholders.¹¹¹ Similar worries about indirect forms of land grabbing and environmental colonialism were expressed by some developing countries preferring a state-controlled mechanism.¹¹²

The trade in ecosystem services is also criticised by some environmentalists on ethical grounds for it is a projection of an anthropocentric vision which ignores the inherent and intrinsic values of nature. This position, which falls within the radical ecology philosophy,¹¹³ rejects the connotation of environmental degradation as a ‘management problem’ and argues instead for a redefinition of the human relationship with nature.¹¹⁴ Other criticisms are advanced on ideological grounds, steeped into an opposition to neoliberalism which involves the privatisation of public

¹⁰⁹ FIELD, *Guide for REDD-plus Negotiators* (FIELD 2011) 4 <www.field.org.uk/files/fieldguideredd-plusnegotiatorseng_022011_webs.pdf> Accessed November 2012.

¹¹⁰ See, for instance, the letter sent by 13 NGOs to the Governor of California to oppose carbon offsetting from forestry: C. Lang, ‘NGOs to California’s Governor: “Trading emissions is NOT a solution to climate change”’ (REDD-Monitor, 8 May 2013) <www.redd-monitor.org/2013/05/08/ngos-to-californias-governor-trading-emissions-is-not-a-solution-to-climate-change> Accessed 11 June 2013.

¹¹¹ Lohmann, ‘Financialization, commodification and carbon: the contradictions of neoliberal climate policy’ (2012) 48 *Socialist Register* 85, at 97-8.

¹¹² Brazil was one of the few developing countries opposed to carbon offsetting out of concerns about national sovereignty (due to the transfer of ownership rights over forest carbon to foreign investors) and overall mitigation impact. See, *inter alia*, UNFCCC Views on the range of topics and other relevant information relating to reducing emissions from deforestation in developing countries (2007) UN Doc FCCC/SBSTA/2007/MISC.2, pp. 21-4. However the country has recently softened its position, opening to the sale of carbon offsets in a new domestic market as an alternative to global carbon market approaches. Other countries that are still opposed to carbon trading are Bolivia and Venezuela. Angelsen and McNeill (n 106) 35.

¹¹³ Hovden, ‘As if nature doesn’t matter: ecology, regime theory and International relations’ (1999) 8(2) *Environmental Politics* 50, at 52-3.

¹¹⁴ These ideas have also found space in several international instruments, such as the 1982 World Charter for Nature and the recently adopted UNGA resolutions on Harmony with Nature. UNGA Res 37/7 (28 October 1982) UN Doc A/RES/37/7; UNGA Res 63/278 (1 May 2009) UN Doc A/RES/63/278; UNGA 64/196 (12 February 2010) UN Doc A/RES/64/196; UNGA Res 67/214 (15 March 2013) UN Doc A/RES/67/214.

goods (the environmental services) and the superimposition of Western models of society on communitarian cultures.¹¹⁵

A further criticism to offset-based payments is that this approach is not as efficient as believed, and that only a carefully crafted policy design can reduce costs.¹¹⁶ First, inaccuracy in setting reference levels may drive up the so-called transaction costs, that is, the price paid for activities that do not generate emissions reductions.¹¹⁷ Second, if payments are made through the purchase of carbon offsets priced internationally, the actual opportunity cost of a REDD-plus activity would be disregarded. The divergence between the opportunity cost of implementing a REDD-plus activity and the sum paid for it at the level of offset purchase generates a private profit (or rent) for the seller or the financial intermediary.¹¹⁸ If payments were based on the international price of carbon offsets, they would not match highly variable opportunity costs, creating huge profits where emission reductions are cheap and failing to protect forests where deforestation is more profitable.¹¹⁹

Problems are not just limited to offsetting. Faith in the effectiveness of financial payments to reduce forest emissions builds on a reductionist perspective on the drivers of forest loss, which is so summarised:

*The fundamental reason for the unsustainable use of forests and for current trends in deforestation is that forests are worth more cleared than standing: the products derived from deforested lands – be they beef, soybeans or palm oil – offer financial revenue to landholders and economic opportunity to local communities and country governments, while standing forests do not.*¹²⁰

¹¹⁵ Thomas et al, 'Why are there so few afforestation and reforestation Clean Development Mechanisms projects?' (2010) 28 Land Use Policy 880, at 884.

¹¹⁶ Fosci, 'The economic case for prioritizing governance over financial incentives in REDD+' (2013) 13(2) Climate Policy 170, at 175.

¹¹⁷ *Ibid* 18; White, Minang, *Estimating the opportunity costs of REDD+: A training manual* (version 1.3, World Bank 2011).

¹¹⁸ *Ibid* 176.

¹¹⁹ Eliasch, *Climate change: Financing global forests* (Crown 2008) 76.

¹²⁰ UNEP, Reddy, Set, *Grow Part 2 - Private sector suggestions for international climate change negotiators: Designing an effective regime for financing forest-based climate change mitigation* (UNEP 2011) 10.

This vision has dominated REDD-plus discourse since the early days. Its theoretical background is the rational choice theory, according to which individuals, organisations and governments take environmental management decisions based on opportunity costs.¹²¹ Because the costs and profits of deforestation accrue at different times and to different actors, short-term exploitative behaviour is economically more ‘rational’ than long-term sustainable management.¹²² It follows that the provision of an economic value to *standing* forests would generate a spontaneous alignment of behaviour (of individuals as well as States) towards the most ‘economically rational’ use. In other words, sufficient positive incentives would create a system of spontaneous, hands-off governance that recalls Adam Smith’s theory of the ‘invisible hand’.¹²³ This model of ‘market-based’ governance should theoretically have two benefits: first, by engaging with the economics of deforestation it addresses directly the drivers rather than merely mitigating their impact; second, for the same reason, it does not need to engage in reforms of public governance in developing countries that have proven particularly complex, long and intractable. Neither benefit, however, stand scrutiny in practice.

With regards to the first benefit, it is apparent that the economic drivers of deforestation cannot be made uneconomic using environmental incentives. Take as an example the two-year moratorium on new palm oil concessions recently agreed between the Governments of Norway and Indonesia.¹²⁴ By virtue of this agreement Norway will transfer a total of US\$1 billion to Indonesia (of which US\$800 million

¹²¹ The application of classical economic theory to environmental problems follows the tradition of thinkers such as E.F. Schumacher, Herman Daly and Donella Meadows, who forty years ago heralded the mainstreaming of environmentalism in international politics. Meadows et al, *Limits to Growth: A report for the Club of Rome's Project on the Predicament of Mankind* (Potomac 1972); Daly, *Steady-State Economics* (2nd edition, Island Press 1991); Schumacher, *Small is Beautiful: a Study of Economics as if People Mattered*, 1972 (Vintage 1993); Marx, *A Contribution to the Critique of Political Economy* (original published in 1875, Intl Publ 1979).

¹²² Profits from deforestation and forest degradation are immediate and direct, while the costs are borne by all the beneficiaries of forest ecosystem services (including carbon sequestration and storage).

¹²³ Williamson, ‘Economic Institutions: Spontaneous and Intentional Governance’ (1991) 7(Special Issue) *Journal of Law, Economics, & Organization* 159, at 159.

¹²⁴ Letter of Intent between the Government of the Kingdom of Norway and the Government of the Republic of Indonesia on ‘Cooperation on Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation’ (Norway-Indonesia) (26 May 2010) <www.norway.or.id/PageFiles/404362/Letter_of_Intent_Norway_Indonesia_26_May_2010.pdf> Accessed 9 February 2014.

using results-based payments) in exchange for a ban on new palm oil plantations in forest areas. However, what Indonesia agreed is a two-year ban on *new* concessions in *primary forest* areas, thus excluding forest that had already been degraded as well as the hundreds of thousands of hectares of primary forests where concessions had already been awarded but not executed.¹²⁵ This was nevertheless seen as a political victory for Norway because the loss of tax revenue the country will suffer as a result of the moratorium is estimated to be around US\$3 billion.¹²⁶

It has thus become clear that REDD-plus is very likely to be considerably underfunded. A UNFCCC report on interim finance indicated that the programme needed between US\$12–21 billion for the 2009–2012 timeframe, while achieving a 50 percent reduction in forest emissions¹²⁷ is estimated to cost several tens of US\$ billion each year.¹²⁸ The resources mobilised by developed countries, while substantial, are nowhere near that amount.¹²⁹ This author has noted that current cost-estimates are imprecise and may be too low.¹³⁰ This scale of finance is unlikely to become available even after the entry into force of a new agreement. If carbon markets will materialise, their contribution is also bound to be insufficient, as it is estimated to mobilise only about US\$7 billion per annum.¹³¹ REDD-plus does qualify for a share of the US\$100 billion per year pledged at Copenhagen but even assuming that developed countries will be able to reach their target, this sum will cover mitigation from all sectors, adaptation, technology development and transfer,

¹²⁵ Austin, Stolle, Sheppard, *Indonesia's Moratorium on New Forest Concessions* (WRI 2012) <www.wri.org/publication/indonesias-moratorium-new-forest-concessions> Accessed 9 February 2014.

¹²⁶ Burhani, *Moratorium hilangkan potensi investasi hingga Rp29 triliun* (Antara News, 17 February 2011) cited in: Luttrell et al, 'The political context of REDD+ in Indonesia: Constituencies for change' (2014) 35 *Environmental Science and Policy* 68.

¹²⁷ The target figured in the draft REDD+ text until 2009 and was only removed at COP 15 in Copenhagen. The target was also affirmed by the EU in the run-up to the Copenhagen COP. Commission, *Cutting forest CO2 emissions through action on deforestation in developing countries (REDD+): Building a post-2012 global climate regime* (EC 2009) <http://ec.europa.eu/clima/events/0013/info_sheet_redd_final_en.pdf> Accessed 11 June 2013.

¹²⁸ One of the most cited figures is US\$ 32 billion per year: Eliasch (n 118) 176. For a comparative review of cost-estimates see Fosci (n 108).

¹²⁹ E.g. the total level of support disbursed by developed nations from 2007 through to December 2013 is US\$ 6.7 billion and it is losing forward momentum. See: 'REDD+ Database' <<http://reddplusdatabase.org>> Accessed 12 December 2013.

¹³⁰ Fosci (n 108) 197-8.

¹³¹ Eliasch (n 119) 182.

capacity building, measurement and reporting obligations and so forth. Considering the moderate contribution of forests to climate change compared to fossil fuels, the rapid increase in industrial emissions in developing countries, and the increased needs for adaptation in a warming world, REDD-plus would only be entitled to receive a small fraction of that sum.

As for the second benefit of market-based governance, the idea that economic instruments can work effectively on their own is disproven by much of the governance and economic literatures.¹³² Even the most extreme forms of ‘free market environmentalism’ are not so much about markets but rather about the institutional arrangements that allow markets to operate, such as property rights.¹³³ Said arrangements need a strong public sector.¹³⁴ This is consistent with Peck and Tickell’s insight that neoliberal policy is not anymore about the retreat of the State but about the “*construction and consolidation* of neoliberalized state forms, modes of governance, and regulatory relations” (emphasis in original).¹³⁵

The realisation that even market-based environmental policy requires a strong public sector has progressively raised the profile of public governance problems in REDD-plus. ‘Policy approaches’ were initially limited to putting in place the rules and basic conditions for the operation of markets. This was the original purpose of REDD-plus’ ‘readiness process’, a system of international cooperation established to prepare countries for the implementation of results-based activities and the effective use of economic incentives. However, the relatively narrow focus on technical measures and market infrastructures has progressively evolved into efforts to build a comprehensive governance framework in which public policies become central in promoting long term structural changes to the national development paradigm.¹³⁶

¹³² See, generally, chapter 2 section 2 and chapter 5 section 1.

¹³³ Anderson and Leal (n 29) 4.

¹³⁴ Ironically, even the CDM model is not a free-market instrument because private sector participants must be authorised by the parent state and demand for carbon offsets depends on the stringency of emission reduction caps – that is, on a prescriptive regulatory measure.

¹³⁵ Peck, Tickell, ‘Neoliberalizing Space’ (2002) 34(3) *Antipode* 380, at 384.

¹³⁶ The term implementation framework is used in the readiness process to indicate “institutional, economic, legal and governance arrangements that may be necessary to enable the country to implement [the programme] and to meet potential country obligations under any future REDD-plus regime“. It amounts to a comprehensive system of governance. See FCPF/UN-REDD, *Readiness*

Box 3.2: Funding gaps in other MEAs and the use of market mechanisms

Gaps in financing for environmental conventions are not uncommon. Recently, the CBD Secretariat has stated that the global 2010 Biodiversity Targets were missed primarily because of insufficient funding. Funding needs for global biodiversity protection were around US\$60 billion per annum in 2010 and will increase to US\$150 billion per annum in 2020, while the overall national budgetary support to biodiversity is estimated to be in the range between US\$15-45 billion in 2010, with huge disparities between developed and developing countries.¹³⁷ To make up for the funding shortfall, the COP launched a strategy for resource mobilization¹³⁸ which aims to attract financial support from a number of sources, including public and private sector investments. In particular, it sets the goal to explore “new and innovative financial mechanisms” including “schemes for payment for ecosystem services” and “biodiversity offset mechanisms”.¹³⁹ Interestingly, among the options considered by the COP to create a biodiversity market a proposal has been gaining support to create a green development mechanism on the model of the CDM.¹⁴⁰

This signals a harmonisation of approaches towards increasing private sector contributions and ecosystem valuation as a strategy to bridge financial shortfalls. The UNCCD is exploring options to build bridges with the private sector and to use methodologies based on the economic valuation of land as a tool to promote sustainable land-use options.¹⁴¹ Recently introduced Integrated Financial Strategies aim to enable “private investments, market-based instruments, and policy and legislative reforms”,¹⁴² and is proving successful.¹⁴³ The Ramsar Convention has also embraced the concept of ecosystem services (such as food, carbon storage, water flows regulation, energy, and biodiversity services provided by wetlands)¹⁴⁴ and may in the future support PES mechanisms to generate finance for wetland protection.

Preparation Proposal, Template Version 6, for Country Use and Public Comment (World Bank 2011) 40.

¹³⁷ CBD, State of financing for biodiversity: draft global monitoring report 2012 on the Strategy for Resource Mobilization under the Convention - Note by the Executive Secretary (2012) UN Doc UNEP/CBD/COP/11/INF/16, pp. 9-12.

¹³⁸ CBD, COP Decision IX/11, Review of implementation of Articles 20 and 21 (2008), UN Doc UNEP/CBD/COP/DEC/IX/11.

¹³⁹ *Ibid.*, paragraphs 4.1 and 4.2; CBD, COP Decision IX/6, Incentive measures (Article 11) (2008) UN Doc UNEP/CBD/COP/DEC/IX/6, paragraph 4.

¹⁴⁰ See, e.g.: Metcalfe, Vorhies, *Exploring the case for a green development mechanism* (CBD 2010) <www.cbd.int/financial/doc/gdm-exploring-the-case-en.pdf> Accessed 9 February 2014.

¹⁴¹ This was discussed at a special session of the 2nd UNCCD Scientific Conference, which was held in Bonn, Germany, on 11 April 2013. <www.global-mechanism.org/en/feature-story/economic-valuation-of-land-and-ecosystem-services-building-bridges-with-the-private-sector> Accessed 12 December 2013.

¹⁴² UNCCD, *Integrated Financing Strategies for Sustainable Land Management* (Global Mechanism of the UNCCD 2008) 13.

¹⁴³ UNCCD's financial flows are based on: UNCCD, *PRAIS reports: CRIC11* (UNCCD 2012) <www.global-mechanism.org/en/feature-story/analysis-of-financial-flows-to-unccd-related-activities-reveals-increase-in-resources> Accessed 12 December 2013.

¹⁴⁴ Ramsar Convention Secretariat, *Wise use of wetlands: Concepts and approaches for the wise use of wetlands* (4th ed., vol. 1, Ramsar Secretariat 2010) 9.

This chapter has shown that a prescriptive international forest regime could not be established due to the opposition of developing countries (and some developed countries) to any constraint on sovereign rights to exploit natural resources. This has left space for the emergence of incentive-based instruments that safeguard economic efficiency. REDD-plus falls in this category. It establishes a multi-level governance framework based on the transfer of economic incentives to developing countries conditional on the achievement of emissions reductions. Despite criticisms, this approach has fostered participation and generated political momentum to review forest management practices in developing countries.

Some crucial elements of the programme are yet to be agreed, however. For instance, it is still unclear whether forest emission reductions will generate carbon offsets, whether there will be sufficient demand from carbon markets, and how REDD-plus' funding framework will be integrated in the financial architecture of the post-Kyoto treaty. Uncertainty over how financial resources will be raised by developed countries underlines another major challenge for the programme. For the incentive approach to work according to opportunity cost logics, incentives must make activities driving deforestation 'uneconomic'. This prospect is highly unlikely as countries are already struggling to meet their modest financial commitments and prospects for private sector participation look bleak. This in turn further invalidates the idea that incentive instruments can be used as a substitute for public governance mechanisms. Instead of trying to impose prescriptive regulatory measures, economic incentives should be used to stimulate public sector governance reforms and then, only when such reforms provide a clear operational space for subnational actors, target stakeholders on the ground. The next chapter will explore how REDD-plus is building public sector governance in developing countries.

Supporting national governance in international REDD-plus

This chapter analyses the contribution of ‘policy approaches’ under REDD-plus. Aside from directly mandating certain behaviour, international legal processes can influence domestic policy in two ways: first, they create consensus over the desirability of certain results and so encourage national governments to adjust domestic policy accordingly; second, they provide technical and financial assistance and facilitate information sharing that can directly affect policy planning and implementation.¹ REDD-plus does both things. The influence of positive obligations set by the COP is described in section 4.1, while section 4.2 discusses the role of extra-regime preparation activities. Finally, section 4.3 assesses the impact of these two contributions and asks whether they are likely to promote the changes needed to build an effective, efficient and equitable programme.

4.1. Improving developing country governance: legal guidance from the COP

While ‘positive incentives’ to reduce deforestation are provided by international donors, ‘policy approaches’ are the prerogative of developing countries’ governments. The term ‘policy approaches’ in this context indicates the regulatory measures, laws and funding priorities promulgated by a governmental entity (at national or, in some cases, subnational level) that are likely to reduce forest emissions either directly or indirectly. Despite such markedly domestic dimension, the international regime has considerable influence on the development of such

¹ Eba’a Atyi, Maryudi, McGinley, ‘Examination of the influences of global forest governance arrangements at the domestic level’ in Rayner, Buck, Katila, *Embracing Complexity: Meeting the Challenges of International Forest Governance* (IUFRO 2011) 111.

approaches. As seen earlier, the COP has recognised that REDD-plus does not operate in a vacuum. In this respect, the Cancun Decision contains numerous provisions that give broad policy guidance to developing countries.²

4.1.1. General guidance

The Cancun Decision states that REDD-plus activities should: be country-driven, respect environmental integrity, take into account the multiple functions of forests and other ecosystems, be undertaken in accordance with national development priorities and with national sustainable development needs and goals, and be consistent with adaptation needs.³ These provisions have implications for national policy development. Taking into account the multiple functions of forests would exclude policy approaches that allow the replacement of primary forests with intensive wood plantations, despite the latter's contribution to carbon sequestration. Implementing REDD-plus activities in accordance with sustainable development priorities, needs and goals requires balancing conflicting goals, coordinating sectoral decisions and seeking synergies between actions. Similarly, mention of adaptation needs suggests that when deciding on REDD-plus implementation, the contribution of forests to local adaptation should be considered, e.g., to geographically prioritise protection. These provisions are hardly ground-breaking but have the merit of setting the programme in the broad international legal context and promoting the integration of diverse environmental values (i.e. the ecosystem services) and social objectives (i.e. the needs of present generations) in decision-making.⁴

4.1.2. The safeguards

The same Cancun Decision also guides national policy development through the so-called 'safeguards'. The term 'safeguard' has traditionally indicated the policies and procedures used by multilateral financial institutions to ensure that their investments

² UNFCCC COP Decision 1/CP.16 (2010) UN Doc FCCC/CP/2010/7/Add.1.

³ *Ibid*, Appendix I paragraph 1(c) to (j).

⁴ The principle of integration is one of the fundamental principles of sustainable development; International Law Association, 'ILA New Delhi Declaration of Principles of International Law Relating to Sustainable Development, 2 April 2002' (2002) 2 International Environmental Agreements: Politics, Law and Economics 211, at 216.

do not create unintended harm. In contrast, the REDD-plus safeguards aim to promote the achievement of non-carbon benefits during implementation. Similar to the general guidance discussed above, these provisions reaffirm objectives enunciated in other international instruments, but using more specific (and enforceable) language.

The safeguards to be supported and promoted in REDD-plus are:

- (a) That actions complement or are consistent with the objectives of national forest programmes and relevant international conventions and agreements;*
- (b) Transparent and effective national forest governance structures, taking into account national legislation and sovereignty;*
- (c) Respect for the knowledge and rights of indigenous peoples and members of local communities, by taking into account relevant international obligations, national circumstances and laws, and noting that the United Nations General Assembly has adopted the United Nations Declaration on the Rights of Indigenous Peoples;*
- (d) The full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities, in REDD-plus actions;*
- (e) That actions are consistent with the conservation of natural forests and biological diversity, ensuring that REDD-plus actions are not used for the conversion of natural forests, but are instead used to incentivize the protection and conservation of natural forests and their ecosystem services, and to enhance other social and environmental benefits;*
- (f) Actions to address the risks of reversals; and*
- (g) Actions to reduce displacement of emissions.⁵*

The attempt to promote integration between various international instruments and mutual supportiveness of their goals and approaches is clear from safeguard 2(a), which has two parts. First, this provision indicates that REDD-plus must build upon and complement the ‘national forest programmes’ introduced in the late 1990s to facilitate the implementation of the non-binding Proposals for Actions of the

⁵ UNFCCC (n 2) Appendix I paragraph 2.

Intergovernmental Panel on Forests and the Intergovernmental Forum on Forests.⁶ They aim to promote sustainable forest management by establishing certain principles for policy planning that are consistent with the safeguards.⁷ Consistency with such programmes would prevent fragmented policy responses and place REDD-plus into carefully crafted policies and strategies. Similarly, REDD-plus must also be consistent with unspecified ‘relevant international conventions and agreements’. The decision not to specify what conventions and agreements are to be considered ‘relevant’ creates uncertainty as it does not contribute to the definition of specific instruments, documents or principles that could orient best practices in implementation. Arguably, relevant instruments should include, among others, all conventions and agreements concerned with biodiversity, desertification, sustainable timber use, sustainable rural development,⁸ and the rights of forest peoples.⁹ This open formulation allows aligning practice with future instruments and decisions.

Nevertheless, two ‘relevant international agreements’ deserve particular attention here. The first is the UN Declaration on the Rights of Indigenous Peoples (UNDRIP), which is mentioned in safeguard 2(c) as a relevant standard for the protection of local rights to access and use forests. This safeguard aims to address concerns that REDD-plus could threaten local communities and indigenous peoples’ rights, for instance by granting property over carbon to foreign investors or by triggering a recentralisation of forest governance.¹⁰ Promulgated by the UN General Assembly in 2007 with 144 votes in favour and only four against, UNDRIP is the first international legal instrument of truly global significance to protect indigenous rights.¹¹ Although the document’s significance is clearly limited by its non-binding

⁶ See chapter 3 note 23.

⁷ See section 6.2.2 for more details.

⁸ See chapter 3 section 1 for a partial list of relevant treaties.

⁹ UNGA Res 61/295, United Nations Declaration on the Rights of Indigenous Peoples (13 September 2007) UN Doc A/61/L.67 and Add.1 (UNDRIP).

¹⁰ Phelps, Webb, Agrawal, ‘Does REDD+ Threaten to Recentralize Forest Governance?’ (2010) 328 *Science* 312, at 312.

¹¹ Xhantaki, ‘Indigenous rights in international law over the last 10 years and future developments’, (2009) 10 *Melb. J. Int’l L.* 27, at p. 30.

nature,¹² its widespread acceptance creates at least a moral expectation of compliance by States and adds some force to the argument that certain indigenous rights are becoming part of customary international law.¹³ Even though opposition by prominent countries demonstrates that the *opinio juris* of the international community does not go in this direction,¹⁴ if REDD-plus helps translate some of UNDRIP provisions into domestic legislation it will help establish the State practice necessary to the progressive solidification of such rights into customary international law.

More relevantly, the far-reaching rights to self-determination accorded by the document to indigenous peoples are – if incorporated domestically - likely to influence the implementation of the programme.¹⁵ One of the rights enunciated in UNDRIP is Free Prior and Informed Consent (FPIC), which, literally interpreted, would put indigenous peoples on the same level as the State.¹⁶ Instead of endorsing

¹² Some authors have argued that UNDRIP is indeed binding on States that do not qualify as persistent objectors; see e.g. Wiessner, ‘The Cultural Rights of Indigenous Peoples: Achievements and Continuing Challenges’ (2011) EJIL 121, at 130; It is the view of this author that such interpretation would be irreconcilable with the choice of instrument (a General Assembly Declaration) as well as with the views expressed by many States in the decade-long discussions that preceded its adoption.

¹³ Wiessner’s argument that some of the rights enshrined in the Declaration – rather than the Declaration as a whole - are gaining force is more convincing: “indigenous peoples are entitled to maintain and develop their distinct cultural identity, their spirituality, their language, and their traditional ways of life; that they hold the right to political, economic and social self-determination, including a wide range of autonomy; and that they have a right to the lands they have traditionally owned or otherwise occupied and used.” Wiessner, *United Nations Declaration on the Rights of Indigenous Peoples* (United Nations Audiovisual Library of International Law 2009) 6, <<http://65.60.52.92/sites/default/files/undeclarationontherightsofindigenouspeoples.pdf>> Accessed 13 August 2014.

¹⁴ Opposition to the Declaration was raised by prominent countries such as the US, Canada, Australia and New Zealand.

¹⁵ See, for instance, articles 10, 18, 26, 27 and 32, detailing indigenous rights to use, control and develop their lands and territories and the natural resources within. States have a duty of consultation and cooperation with indigenous peoples, although it is still unclear whether the latter have a veto power on government decisions affecting their lands in case agreements cannot be found. UNGA (n 9).

¹⁶ Barelli summarises the main tenets of FPIC as follows: “First, ‘free’ should imply no coercion, intimidation or manipulation. Secondly, ‘prior’ should imply that consent must be sought sufficiently in advance of any authorisation or commencement of activities, and that the relevant agents should guarantee enough time for the indigenous consultation/consensus processes to take place. Thirdly, ‘informed’ implies that indigenous peoples should receive satisfactory information in relation to certain key areas, including the nature, size, pace, reversibility and scope of the proposed project, the reasons for launching it, its duration, and a preliminary assessment of its economic, social, cultural and environmental impact. [...] Finally, ‘consent’ should be intended as a process of which consultation and participation represent the central pillars.” Barelli, ‘Free, prior and informed consent

FPIC, safeguard 2(d) sets the lower standard of “full and effective participation”, which does not require the ‘consent’ of indigenous peoples.¹⁷ Countries have therefore the prerogative in deciding between consent and consultation based on their “national circumstances and laws”.¹⁸

The second international instrument of particular relevance to this discussion is the UN Convention on Biological Diversity (CBD). Although not explicitly mentioned in the text, the relevance of the CBD is to be seen in the context of safeguard 2(e). Above all, this provision aims to prevent the conversion of low-carbon high-biodiversity natural forests into high-carbon low-biodiversity intensive tree plantations. Aware that this activity may in some cases have net carbon benefits, many NGOs have lobbied hard to ensure that the text rules out the conversion of natural forests as a climate change mitigation strategy.¹⁹ A combined reading of safeguards 2(a) and 2(e) therefore suggests that Parties recognise the biodiversity potential of REDD-plus, and that biodiversity preservation must be achieved by factoring relevant provisions from other treaties in implementation.

Efforts to promote mutual supportiveness between carbon and biodiversity goals have been more prominent in the CBD than in REDD-plus, however. Before the emergence of REDD-plus, the CBD COP had already established an expanded programme of work on forest biological diversity and climate change whose measures to improve forest governance, promote sustainable forest management, restore degraded forests, fight forest fires, develop good practices in forest law enforcement and clarify forest tenure clearly overlap with, and can contribute significantly to the success of REDD-plus.²⁰ At its ninth session, the CBD COP invited UNFCCC Parties to establish formal collaborations among the subsidiary bodies to the three Rio conventions to increase mutual supportiveness and

in the aftermath of the UN Declaration on the Rights of Indigenous Peoples: developments and challenges ahead’ (2012) 16(1) *The International Journal of Human Rights* 1, at 2.

¹⁷ *Ibid.* A similar interpretation is also given by the World Bank in the application of FPIC for the projects it supports. Goodland, ‘Free, Prior and Informed Consent and the World Bank Group’ (2004) 4(2) *Sustainable Development Law & Policy* 66.

¹⁸ UNFCCC (n 2) Appendix I, paragraph 2(c).

¹⁹ Avoiding the conversion of natural forests was also seen as key to protecting the rights of local and indigenous forest communities, as stated in the footnote to this safeguard. *Ibid.*, Appendix I.

²⁰ UNCBD, COP Decision VI/22, Forest biological diversity (2002) UN Doc UNEP/CBD/COP/6/20, annex

established an Ad Hoc Expert Group on biodiversity and climate change (AHTEG).²¹ AHTEG developed recommendations for the implementation of REDD-plus²² which were published in a number of detailed reports and put forward best practices and approaches to forest management and governance alongside the CBD Secretariat's own work.²³ This work in turn informed subsequent CBD decisions and can contribute to the development of sound national REDD-plus policies.²⁴ It remains to be seen, however, to what extent these will be integrated into REDD-plus implementation and to what extent they will be monitored to ensure compliance with safeguard 2(e). In this respect, the request made by the COP to the Executive Secretary to identify indicators and mechanisms to assess and monitor REDD-plus biodiversity contribution is particularly important.²⁵

Further guidance for REDD-plus policies can be inferred by safeguard 2(b), which enunciates the principles of transparency and effectiveness. The word transparency in this context reveals a general expectation that international scrutiny will focus not only on the environmental integrity of emission reductions,²⁶ but also on the underlying decision-making process. Effectiveness may refer to issues such as bureaucratic capacity and participation as well as to simplified bureaucratic procedures. The latter interpretation is consistent with the juxtaposition of effectiveness and transparency, which would both benefit from slim decision-making

²¹ UNCBD COP Decision IX/16, Biodiversity and climate change (2008) UN Doc UNEP/CBD/COP/DEC/IX/16

²² CBD, *Connecting Biodiversity and Climate Change Mitigation and Adaptation: Report of the Second Ad Hoc Technical Expert Group on Biodiversity and Climate Change* (CBD Secretariat 2009).

²³ See also: CBD, *Interlinkages Between Biological Diversity And Climate Change: Advice on the integration of biodiversity considerations into the implementation of the United Nations Framework Convention on Climate Change and its Kyoto Protocol* (CBD Secretariat 2003); CBD, *REDD-plus and Biodiversity* (CBD Secretariat 2011); Thompson et al, *Forest Resilience, Biodiversity, and Climate Change. A synthesis of the biodiversity/resilience/stability relationship in forest ecosystems* (CBD Secretariat 2009).

²⁴ Interestingly, both the publications and the relevant CBD COP decisions on forest biodiversity consistently stress how good governance principles are key elements of the protection and sustainable management of forest biodiversity, such as clear land tenure, full and effective participation of local and indigenous communities, effective monitoring and enforcement mechanisms and so forth. This shows a trend towards a convergence of approaches, at least analytically, between different regimes and strengthens the arguments that will be put forward in the second part of this thesis.

²⁵ UNCBD COP Decision X/33 Biodiversity and climate change (2010) UN Doc UNEP/CBD/COP/DEC/X/33, paragraph 9(h).

²⁶ UNFCCC (n 2) paragraph 71(c).

structures. As seen in chapter 2, transparency and effectiveness are particularly important missing elements in the forest governance mix of developing countries: given the sensitivity of such issue, the inclusion of such principles in the text is significant even though the provision's legal force is watered down by the need to take into account "national legislation and sovereignty".

Finally, safeguards 2(f) and 2(g) deal with the problems of leakage and permanence discussed earlier.²⁷

4.1.3. Conditions to access results-based payments

Paragraph 71 of the Cancun Decision establishes that in order to receive results-based payments developing countries must develop the following elements: (a) a national strategy or action plan; (b) a national forest reference level or forest reference emission level;²⁸ (c) a national forest monitoring system; and (d) a system for providing information on how the safeguards are being addressed. The reference level and monitoring system have already been discussed in chapter 3. Both present considerable technical challenges²⁹ but neither has a major impact on public governance. By contrast, the other two requirements have important implications.

The national strategy or action plan is a mandatory document setting out the modalities in which developing countries reduce forest emissions while achieving other environmental and development objectives. It stems from the realisation that many such countries are not ready to do so and need technical and capacity-building support before they can access results-based payments. In order to build preparedness, the document must consider the governance and policy framework surrounding REDD-plus implementation, as demonstrated by mention of "inter alia, land tenure issues, forest governance issues, gender considerations and the safeguards".³⁰

²⁷ Chapter 3 section 2.1.

²⁸ Sub-national reference levels may be accepted as an interim solution: UNFCCC (n 2), paragraph 71(b).

²⁹ See, inter alia: UNFCCC COP Decision 13/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1; UNFCCC COP Decision 11/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1.

³⁰ UNFCCC (n 2) paragraph 72.

The rationale of the safeguard information system is to demonstrate the achievement of social and non-carbon environmental objectives. What differentiates the safeguards from the provisions of appendix I paragraph 1 is that, despite their vague language,³¹ the Warsaw COP has made clear that safeguards must be “addressed and respected before [developing countries] can receive results-based payments.”³² Information on safeguards is provided by developing countries as part of their biennial update reports. It should be transparent, comprehensive, accessible by all stakeholders and allow for improvement,³³ but it is not subjected to independent verification or any other form of international scrutiny. This creates a double standard between carbon (subjected to MRV) and non-carbon objectives (subjected to unilateral reporting), but it does at least establish an international interest in ensuring the promotion of non-carbon benefits. It is reasonable to think that, given the active involvement of civil society and local and indigenous communities in international negotiations, national reports on safeguards will be carefully scrutinised and challenged on occasion.

4.1.4. Drivers

By providing incentives to developing countries, REDD-plus tries to influence the supply of forest products. This is consistent with paragraph 72 of the Cancun Decision which established that measures to address the drivers should be included in national strategies,³⁴ and it differentiates the programme from other market-based international initiatives that address the demand-side of forest loss (box 4.1).

The Bali Decision on REDD-plus incites parties to identify options and undertake efforts to address the drivers.³⁵ The Cancun Decision “encourages all Parties to find effective ways to reduce the human pressure on forests that results in greenhouse gas

³¹ See in particular the hortatory language used in Appendix I paragraph 2 – that safeguards “should be promoted and supported” - and provisions that qualify safeguard application in the context of “national legislation and sovereignty” or “national circumstances and laws”.

³² UNFCCC COP Decision 9/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1, paragraph 4.

³³ UNFCCC COP Decision 12/CP.17 (2011) UN Doc FCCC/CP/2011/9/Add.2, paragraph 2.

³⁴ UNFCCC (n 2) paragraph 72.

³⁵ UNFCCC COP Decision 2/CP.13 (2007) UN Doc FCCC/CP/2007/6/Add.1, paragraph 3.

emissions, including actions to address drivers of deforestation”.³⁶ Reference to ‘all Parties’ suggests that developed countries whose foreign direct investments and market demand are causing forest emissions should also align their trade policies to the climate mitigation objective of REDD-plus. However, a few paragraphs later, the same decision “requests developing country Parties [...] to address, inter alia, the drivers of deforestation”.³⁷ So while all Parties are *encouraged* to take actions to address deforestation drivers, only developing countries are *requested* to address them. This reveals the different emphasis placed on curbing demand vis-à-vis reforming the supply chain.

Although drivers are to be addressed by the Parties, the COP showed a desire to legislate directly on this matter and at Warsaw it issued the first decision on “Addressing the drivers of deforestation and forest degradation”.³⁸ However, this decision neither provides guidance nor establishes a process for the future development of international legislation on this issue. Instead, it only encourages relevant actors to “continue their work to address the drivers” and to “share the results of their work on this matter”.³⁹ The postponement of international legal guidance on the drivers is partly due to the “complexity of the problem” and partly to concerns about national sovereignty, and implications for developed countries (i.e. the effects of measures on demand and supply of international commodities). The Warsaw Decision notes that “addressing the drivers may have an economic cost and implications for domestic resources” as well as for livelihoods, and further states that actions “are unique to countries’ national circumstances, capacities and capabilities”.⁴⁰

4.1.5. The significance of the COP Decisions

Overall, the COP’s contribution to domestic policy development is hardly groundbreaking but it is nonetheless significant considering the voluntary and incentive-

³⁶ UNFCCC (n 2) paragraph 68.

³⁷ *Ibid* paragraph 72.

³⁸ UNFCCC COP Decision 15/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1.

³⁹ *Ibid* paragraph 4.

⁴⁰ *Ibid* paragraph 2.

based nature of the programme. The general guidance in Appendix I of the Cancun Decision merely contains a wish-list of objectives that are, for the large part, either intrinsic to government action or already stated elsewhere in the Convention. Safeguards use vaguer language than other international guidelines⁴¹ and fail to establish an enforceable minimum standard of practice.⁴² They establish a set of principles for the country-led implementation of REDD-plus activities which “guide expectations surrounding social and environmental outcomes”.⁴³ Their effectiveness will thus depend on whether consistent standards of practice will solidify over time, reducing country discretion.

The COP also gives some indications as to how domestic REDD-plus policy should be developed. The fulcrum is the national strategy or action plan, which addresses issues like tenure, governance and safeguards. The safeguards set out certain guiding principles for national implementation. Among them, ideas of transparency and stakeholder participation are arguably both means to reduce forest emissions (i.e. criteria for developing effective policy approaches)⁴⁴ and objectives in themselves (i.e. good governance principles).

The focus on national planning is consistent with the approach taken by other MEAs and facilitates synergies in the domestic implementation of multiple international instruments. These synergies are explicitly sought in the text either by mandating consistency with relevant international obligations and agreements or by singling out specific objectives (such as biodiversity protection and respect for indigenous and local rights). Moreover, the text repeatedly states that REDD-plus must be consistent with national development needs, goals, and priorities, as well as with national circumstances and capabilities; this implies that domestic policy development should

⁴¹ See, e.g., the international guidance provided to national forest governance, FAO, *Understanding national forest programmes, Guidance for practitioners* (FAO 2006).

⁴² Daviet, Larsen, *Safeguarding Forests and People: A Framework for Designing a National System to Implement REDD+ Safeguards* (WRI 2012) 28.

⁴³ Jagger, Lawlor, Broakhaus, Gebara, Sonwa, Resosudarmo, ‘REDD-plus safeguards in national policy discourse and pilot projects’, in Angelsen et al, *Analysing REDD+: Challenges and choices* (CIFOR 2012) 303-4.

⁴⁴ The ‘policy approaches’ referred to in the REDD-plus text are clearly the prerogative of governments, i.e. they refer to ‘public policy’.

be informed by the integration principle, a pillar of the sustainable development concept.

Box 4.1: Addressing the demand-side of deforestation

REDD-plus tries to increase the efficiency of the production of timber and agricultural products that drive deforestation. Other initiatives aim to address the demand-side of forest loss. Recent trade measures to limit or ban the import of illegally logged timber, such as the EU Timber Regulation and FLEGT initiative and the 2008 amendments to the US Lacey Act, are an important precedent for expanding regulatory action in this sense.⁴⁵ Another solution is using information-based instruments to create a market in sustainably sourced products by steering consumer choices through labelling standards. Examples include timber certification initiatives,⁴⁶ sustainably labelled soy and beef products,⁴⁷ or the more recent Roundtable for Sustainable Palm Oil.⁴⁸ In practice, however, these schemes have had a limited impact so far.

New and promising initiatives are being developed to restructure demand. The Banking Environment Initiative (BEI) brings together 10 global banks to find ways to support businesses worldwide achieve certain sustainability goals;⁴⁹ in collaboration with the Consumer Goods Forum (GCF), it seeks to transform the value chain for deforestation commodities (palm oil, soy, beef and paper)⁵⁰ by establishing credible, multi-stakeholder stewardship standards that can be used to guide responsible procurement practices.⁵¹ The participation of leading banks and global commodity producers can have a noticeable impact on global demand for such commodities.⁵² A connected initiative is the Tropical Forest Alliance 2020, a public-private partnership that aims to halt net deforestation by 2020 by supporting priority actions to reduce tropical deforestation and facilitates the exchange of information among partners.

⁴⁵ Council Regulation (EC) 995/2010 of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market [2010] OJ L295/23; US Congress, Food, Conservation, and Energy Act (Farm Bill) of 2008 amending the Lacey Act of 1990, Section 8204, Prevention of Illegal Logging Practices.

⁴⁶ See chapter 3 section 1.

⁴⁷ Boucher et al, *What's Driving Tropical Deforestation Today?: The Root of the Problem* (UCS Publications 2011) 45-7.

⁴⁸ RSPO, *Transforming the market to make sustainable palm oil the norm* (RSPO 2012) <[www.rspo.org/file/IG-1%20\(Low%20Res\).pdf](http://www.rspo.org/file/IG-1%20(Low%20Res).pdf)> Accessed 10 February 2014.

⁴⁹ 'Banking Environment Initiative' (University of Cambridge 2014) <www.cpsl.cam.ac.uk/bei> Accessed 10 February 2014.

⁵⁰ 'Deforestation' (Consumer Goods Forum) <<http://sustainability.mycgforum.com/deforestation.html>>

⁵¹ 'Collaboratory on Soft Commodities: A Partnership with Consumer Goods Forum companies' (University of Cambridge) <www.cpsl.cam.ac.uk/Business-Platforms/Banking-Environment-Initiative.aspx?#fragment> Accessed 10 February 2014.

⁵² The 400 partners of the GCF, for instance, have combined sales of over €2.5 trillion, while the global partners of BEI include some of the world's leading financial institutions. 'Tropical Forest Alliance 2020' (Meridian Institute 2014) <www.tfa2020.com/index.php/about-tfa2020> Accessed 14 February 2014.

The reaffirmation of objectives and legal principles that are already codified in other international instruments⁵³ provides a basis for the elaboration of guidelines, best practices and codes of conduct in the readiness process. The contribution of the COP can therefore be fully understood only by looking at readiness.

4.2. Influencing national policy through operational guidance: REDD-plus readiness

The development and implementation of a national strategy that balances environmental, economic and social objectives places great pressure on developing countries. Aware of the complexity of this task, the Cancun Decision affirmed that REDD-plus implementation should proceed in phases. The first two phases, called ‘readiness’, channel non-results-based support for preparatory activities including the development and implementation of “national strategies or action plans, policies and measures, and capacity-building”,⁵⁴ while the third phase deploys results-based payments for emission reductions at scale. This approach ensures that all countries can participate in REDD-plus and that they receive adequate support according to their relative capacity.⁵⁵

It is through ‘readiness’ that developing countries are expected to build a strong system of governance. The term is commonly used to indicate three distinct though overlapping concepts: (i) a preparatory process consisting of investments in technical assistance and capacity building (readiness process), (ii) a temporal phase in the implementation of REDD-plus that precedes results-based incentives (readiness phase), and (iii) a status or condition to be acquired by participant countries before they enjoy full participation in the programme (readiness status).

⁵³ See, inter alia: Rio Declaration on Environment and Development (adopted 14 June 1992) 31 ILM 874, principles 4, 7, 10, 11, 16 and 22.

⁵⁴ UNFCCC (n 2) paragraph 73.

⁵⁵ Angelsen et al, *Reducing Emissions from Deforestation and Forest Degradation (REDD): An Options Assessment Report* (Meridian Institute 2009); Wertz-Kanounnikoff, Angelsen, ‘Global and national REDD-plus architecture’, in Angelsen, *Realising REDD-plus: National strategies and policy options* (CIFOR 2009) 15.

Readiness has two connected functions: to create the conditions for the effective use of REDD-plus incentives, and to collect information and test different approaches to inform the negotiations and improve policy development. The work of actors involved in the readiness process has unearthed and explored problems of governance, illegality and lack of capacity later recognised in the REDD-plus safeguards. It would have been politically difficult to correctly assess the impact of these problems without the diagnosis carried out in the readiness process.

There is no space here to provide an exhaustive summary of the many multilateral, bilateral and subnational initiatives that fall under the umbrella of readiness.⁵⁶ Wertz-Kanounnikoff and Kongphan-Apirak classify activities that fall in the area of readiness as: (a) demonstration activities or pilot projects testing specific small-scale arrangements and techniques at local scale; (b) national readiness activities including the measures and mechanisms that establish the implementation framework for REDD-plus; and (c) project activities without explicit carbon goals, such as payments for ecosystem services schemes or integrated conservation and development projects.⁵⁷ Although only the first two types of activities can be considered strictly speaking part of readiness, all can provide information that feeds back into the negotiation process and inform the design of the programme. This section focuses on national-level reforms.

4.2.1. The multilateral readiness process

Two organisations have dominated the first phase of readiness: the UN-REDD Programme and the World Bank's Forest Carbon Partnership Facility (FCPF). Both in operation since 2008, the two organisations help developing countries prepare national REDD-plus strategies, build capacity and spread knowledge about the programme, and provide opportunities for dialogue between governments, civil society organizations and technical experts. Their action has focused on outlining the steps to be taken by governments to prepare for the receipt of large-scale payments

⁵⁶ For a good summary see: Johns, Johnson, Greenglass (eds.), *An Overview of Readiness for REDD: A compilation of readiness activities prepared on behalf of the Forum on Readiness for REDD, Version 2* (WHRC 2009); Westholm, *Getting ready for REDD-plus* (Focali 2010).

⁵⁷ Wertz-Kanounnikoff, Kongphan-apirak, *Emerging REDD+: A preliminary survey of demonstration and readiness activities* (CIFOR 2009) 2.

for emission reductions. After a period of uncoordinated work, UN-REDD and FCPF have increased collaboration and now work jointly on the basis of a common document template called Readiness Preparation Proposal (R-PP). The R-PP template documents are periodically updated by the technical bodies of the two organisations with the input of civil society groups,⁵⁸ reflecting an idea of learning-by-doing that has allowed the progressive inclusion of multilateral requirements on governance and participation.⁵⁹

The R-PP spells out best practices in the preparation for readiness activities, providing “a framework for taking stock of the national situation with respect to deforestation, forest degradation, and the other REDD-plus activities, and also for addressing this situation”.⁶⁰ It has four components: conclusion of the national REDD-plus strategy, analysis of the implementation framework, setting of the Reference Level, and preparation of the monitoring systems for carbon and safeguards.⁶¹ Applicant countries are awarded up to US\$3.6 million to prepare the document, including such activities as technical advice and consultations.⁶² The submitted R-PPs are considered for approval by a political body (the FCPF Participants Committee or the UN-REDD Policy Board), which makes a decision on grant allocation in accordance with agreed criteria and procedures. Virtually all documents have gone through various rejections and re-submissions.

The outcome of the readiness preparation process is the ‘Readiness Package’ (or R-Package), a collection of documents that provide information on the components listed in the R-PP. The R-Package must also be approved by the political body before countries are allowed to apply for funding for emissions reductions

⁵⁸ The same process also applied to the document template, of which exist six versions. The last version was published in 2011; *ibid.*

⁵⁹ The technical bodies are the Facility Management Team for the FCPF and the Secretariat of UN-REDD.

⁶⁰ FCPF/UN-REDD, *Readiness Preparation Proposal, Template Version 6, for Country Use and Public Comment* (World Bank 2011).

⁶¹ FCPF, Resolution PC/12/2012/1 (2012).

⁶² FCPF, Resolution PC/10/2011/1 (2011).

activities.⁶³ At the moment of writing, 54 countries have submitted an R-PP, and many of them are in the final stage of phase one.⁶⁴

As countries move towards the implementation of their national REDD-plus strategies (phase 2), readiness is managed by other organisations. The Forest Investment Program (FIP) is a targeted programme of the Strategic Climate Fund administered by the World Bank,⁶⁵ which so far operates in eight pilot countries.⁶⁶ It should “complement, be coordinated with, and cooperate closely with other REDD demonstration and implementation initiatives and ongoing REDD efforts, such as FCPF and the UN-REDD Programme” and build on their “readiness work”.⁶⁷ Yet it acts independently from the UN-REDD and FCPF: using its own assessment procedure, it selects countries with a sufficient level of readiness to prepare a national Investment Plan under its guidance.⁶⁸

The Programme was established in 2009 but it has only stepped up its operation from the second half of 2012, when the first phase of readiness was at a more

⁶³ Charter Establishing The Forest Carbon Partnership Facility (World Bank 2010) sec. 6.3-6.4; UN-REDD, UN-REDD Programme Rules of Procedure and Operational Guidance (UN-REDD 2009) 7-11; World Bank, Forest Carbon Partnership Facility (FCPF) Readiness Fund, Readiness Package Assessment Framework (World Bank 2013) Doc FMT Note 2013-1 rev, p. 1-3.

⁶⁴ As of July 2013, there are 36 FCPF countries and 18 UN-REDD countries. 31 more countries enjoy ‘partner’ status in UN-REDD, meaning that they receive targeted support and knowledge sharing but have not yet formally undertaken a national readiness preparation process with the organisation. The list of countries is available at <www.un-redd.org/Partner_Countries/tabid/102663/Default.aspx> Accessed 10 February 2014.

⁶⁵ The Strategic Climate Fund (SCF) is one of two trust funds established within the framework of the Climate Investment Funds (CIF). The CIF was established in 2008 by the World Bank in consultation with other Multilateral Development Banks to mobilise new and additional finance for climate mitigation and adaptation activities. The SCF provides financing to pilot new development approaches or scale-up activities aimed at a specific climate change challenge or sectoral response. CIF, Governance Framework for the Strategic Climate Fund (2008) paragraphs 5-8 <www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/SCF_Governance_Framework.pdf> Accessed 10 February 2014.

⁶⁶ These are: Brazil, Burkina Faso, the Democratic Republic of Congo, Ghana, Indonesia, Lao People's Democratic Republic, Mexico and Peru.

⁶⁷ *Ibid* 6.

⁶⁸ For instance, the FIP supports Brazil, a country with advanced readiness status and sophisticated environmental policies but which is not part of any international readiness initiative. CIF, Criteria for Selecting Country and Regional Pilots under the Forest Investment Programme (CIF 2009) FIP/SC.1/5/Rev.1.

advanced stage.⁶⁹ Albeit endowed with a capital of US\$639 million, it has so far approved funding for less than US\$70 million and disbursed a little over US\$2 million. Contributions are disbursed by intermediary multilateral banks in two forms: (a) as grants to support the preparation of national Investment Plans;⁷⁰ and (b) as concessional loans for large-scale projects.⁷¹

The FIP aims to promote transformational change in developing countries forest management and address the underlying causes of deforestation⁷² by supporting and promoting: institutional capacity (including for forest monitoring systems, forest law enforcement, cadastral mapping and land tenure reform, and landscape based planning), investments in forest mitigation (particularly through payments for ecosystem services) and investments outside the forest sector that reduce the pressure of drivers (such as poverty alleviation opportunities, alternative energy programmes, agricultural investments and intensification in the context of rationalised land-use planning).⁷³ It is governed by a Sub-Committee comprising representatives of donor and recipient countries in equal number, which is responsible for overseeing and deciding on operations and activities, and particularly for approving financing terms and modalities.⁷⁴

Other efforts have had a significant influence on readiness, particularly Norway's International Climate and Forest Initiative.⁷⁵ The Scandinavian country has concluded bilateral agreements with Brazil, Guyana, Indonesia, Tanzania, Vietnam and the Congo Basin Forest Fund, on top of providing support to UN-REDD, FCPF

⁶⁹ See the list of decisions taken by the FIP Sub-Committee, available on the programme's website <[www.climateinvestmentfunds.org/cif/decisions/approved?prog\[\]=390&date\[min\]=\[date\]=&date\[max\]\[date\]=>](http://www.climateinvestmentfunds.org/cif/decisions/approved?prog[]=390&date[min]=[date]=&date[max][date]=>) Accessed 10 February 2014.

⁷⁰ 'Climate Funds Update on Forest Investment Program' (ODI 2013) <www.climatefundsupdate.org/listing/forest-investment-program> Accessed 2 December 2013.

⁷¹ See, e.g., the Mexican Forest Fund in chapter 7 section 2.

⁷² CIF, Design Document for the Forest Investment Program: A targeted Program under the SCF Trust Fund (2009) paragraphs 10-11.

⁷³ *Ibid* paragraph 12.

⁷⁴ The Sub-Committee is assisted by an Expert Group and it is open to the scrutiny of six active observers from civil society, indigenous peoples and the private sector. *Ibid.*, paragraphs 17-37.

⁷⁵ Government of Norway, *The Government of Norway's International Climate and Forest Initiative* (Norwegian Government Administration Services 2012).

and the FIP.⁷⁶ The remarkable level of financial support provided by Norway has accelerated the readiness process in these countries: for instance, the pledged contribution of US\$1 billion has been instrumental in establishing Brazil's Amazon Fund, which is discussed in chapter 7.⁷⁷ The Memorandum of Understanding concluded with Indonesia in 2010,⁷⁸ which is also backed by US\$1 billion, also set in motion institutional and legal reforms.⁷⁹ While remarkable from an international relations' perspective, the significance of Norway's bilateral agreements is mostly political, i.e. related to the advancement of international cooperation on REDD-plus. From an analytical standpoint, these agreements follow the guidance provided by the readiness work of multilateral agencies and hence their contribution to the formulation of a comprehensive readiness policy seems secondary to the work of multilateral organisations. The next section will consider the analytical work of the multilateral readiness initiatives.

4.2.2. Key documents in readiness practice

The readiness process generally follows the guidance of the R-PPs and Investment Plans. The qualitative elements and best practices outlined in the R-PP are based on the guidance of the COP, i.e. as provided in the Cancun Decision at paragraph 71 and the safeguards.⁸⁰ In particular, two components of the R-PP are central to this discussion: (i) the development of a national REDD-plus strategy, which sets out measures to address the drivers based on a comprehensive analysis of land use, land use change, forest law, policy and governance;⁸¹ (ii) the implementation framework, which describes "credible and transparent institutional, economic, legal and

⁷⁶ *Ibid.*

⁷⁷ Chapter 7 section 2.

⁷⁸ Letter of Intent between the Government of the Kingdom of Norway and the Government of the Republic of Indonesia on 'Cooperation on Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation' (2010) <www.norway.or.id/PageFiles/404362/Letter_of_Intent_Norway_Indonesia_26_May_2010.pdf> Accessed 9 February 2014.

⁷⁹ See, *inter alia*, chapter 6 section 4 and Annex C.

⁸⁰ The COP requires Parties to develop a national strategy or action plan, a national reference level, a national forest monitoring system and a system to provide information on the safeguards. UNFCCC (n 2) paragraph 71.

⁸¹ *Ibid* component 2a.

governance arrangements that may be necessary to enable the country to implement its [national REDD-plus strategy].”⁸² The document stresses that countries have flexibility in setting up their implementation framework and provides limited recommendations about the reforms that could be undertaken.⁸³ This is not necessarily a bad thing as long as the implementation framework developed by national governments is subjected to international scrutiny based on clear criteria and standards.

Such criteria and standards are not made explicit in readiness documents but some guidance can be inferred from the document support for ‘multiples’ of good governance.⁸⁴ Multi-sector integration is explicitly sought in the set-up of national readiness management arrangements in order to align REDD-plus with development priorities and to address the drivers.⁸⁵ To this end, a country may use an existing coordinating body or create new *ad hoc* ones with representatives from different government sectors.⁸⁶ The participation of stakeholders builds on information sharing and the promotion of early dialogue on the readiness process.⁸⁷ In application of the safeguards, participant countries must carry out extensive consultation (particularly on issues concerning tenure)⁸⁸ while the higher standard of FPIC is required for the participation of indigenous and traditional forest communities in UN-REDD countries.⁸⁹ Multi-stakeholder involvement is also sought in the context of the Strategic Environmental and Social Assessment and the

⁸² *Ibid* component 2c.

⁸³ *Ibid* 41.

⁸⁴ Chapter 2 (n 99).

⁸⁵ FCPF/UN-REDD (n 62) component 1a.

⁸⁶ A typical example of such institutional arrangement is the REDD-plus Task Force established in Indonesia which has evolved into a National REDD-plus Agency for phases 2 and 3. Indonesian REDD+ Task Force, REDD+ National Strategy (2012) <www.satgasreddplus.org> Accessed 10 February 2014.

⁸⁷ FCPF/UN-REDD (n 62) component 1b.

⁸⁸ *Ibid* component 1c.

⁸⁹ FPIC also applies to FCPF countries that have endorsed UNDRIP. FCPF/UN-REDD (n 50) 27; also see UN-REDD, Programme Guidelines on FPIC (New York, 2009) <www.un-redd.org/Launch_of_FPIC_Guidelines/tabid/105976/Default.aspx> Accessed 10 February 2014; Colchester, Farhan, *Making FPIC – Free, Prior and Informed Consent – Work: Challenges and Prospects for Indigenous Peoples* (FPP 2009); UNGA (n 9) articles 10, 11, 19, 28, 29 and 32.

preparation of the Environmental and Social Management Framework,⁹⁰ and the document also demands the establishment of accessible feedback and grievance redress mechanisms.⁹¹ Finally, multi-level coordination is implicit in the treatment of REDD-plus institutional arrangements in the document. The national readiness management arrangements must describe the relative hierarchy between institutions, and their relations with the coordinating institution.⁹² Existing institutional arrangements should be assessed and improved as necessary so as to ensure increased effectiveness, transparency and equity. However, apart from recommending the use of a national registry of REDD-plus activities,⁹³ the document leaves the issue of multi-level legal and institutional coordination to the discretion of the recipient government, a solution that is made necessary given the persisting uncertainties over the final shape of the programme.⁹⁴

The Investment Plan endorses the implementation of the safeguards;⁹⁵ it reiterates concepts of transparency, participation and access to information;⁹⁶ sets a multi-sectoral approach by aiming to reduce pressures on forests from other land use sectors; emphasises the need to ensure the consistency of regulations so as to avoid providing perverse incentives and urges coordination among delivery partners;⁹⁷ and underlines the need to build institutional capacity, a fiscal and regulatory framework, land use policies, market infrastructures and expenditure frameworks to leverage private finance.⁹⁸ Finally, the FIP design document recommends taking into account “existing sustainable development plans, national climate change efforts, forest-related programs, and ongoing and planned [Multilateral Development Bank]

⁹⁰ FCPF/UN-REDD (n 62) components 1b and 1c.

⁹¹ *Ibid* component 1a, 16-7.

⁹² *Ibid* component 1a, 15.

⁹³ *Ibid* component 2c, 41.

⁹⁴ The other components of the R-PP provide guidelines on the development of a forest reference emission level or forest reference level (component 3) and on the design of a National Forest Monitoring System as well as a of system to provide information on multiple benefits, governance and the safeguards (component 4). Guidelines on these issues are of a technical nature and are not relevant to this discussion.

⁹⁵ CIF, FIP Operational Guidelines (2010) FIP/SC.4/3/Rev.1, Annex C, section 4.

⁹⁶ *Ibid*, section 1.

⁹⁷ *Ibid*, section 3.

⁹⁸ *Ibid*.

operations in the country's forest sector".⁹⁹ The FIP guidance is less detailed than that provided by the R-PP: this is partly to avoid overlaps and partly because the Investment Plan is prepared through country-led joint missions whose objective is to ensure that the consolidated investment criteria of the Fund are met.¹⁰⁰ The involvement of independent international experts emphasises collaboration over supervision, thus further promoting flexibility.

4.2.3. The contribution of the readiness process

In order to assess readiness, one must look at the three main documents used in the process: the R-PP, the Investment Plan and the national REDD-plus strategy. Annex A shows the availability of such documents in the 35 countries with highest net deforestation considered in this thesis:¹⁰¹ as of December 2013, 19 R-PPs have been submitted among the sampled countries, but just five Investment Plans and three national REDD-plus strategies.¹⁰² Such difference is only partly surprising: as seen above, developing countries have been working on the R-PPs since 2008 while work on the Investment Plans is more recent; moreover, the FIP only operates in eight pilot countries. As for the national REDD-plus strategies, these should be one of the main outputs of the readiness process laid out in the R-PP and it is understandable that few countries have finalised such an important document. Nevertheless, given the low number of FIP Investment Plans and national REDD-plus strategies, documents submitted by countries that are not among the sampled countries will also be included in the assessment.

Annex C sums up the assessment of these three documents. All texts have been analysed using the same methodological approach.¹⁰³ However, the analysis of the

⁹⁹ CIF (n 74) paragraph 33.

¹⁰⁰ FIP-supported actions must contribute to climate change mitigation, have demonstration potential at scale, are cost-effective, feasible, and integrated within a sustainable development strategy, and meet the REDD-plus safeguards. CIF, Forest Investment Programme: Investment Criteria and Financing Modalities (2010) FIP/SC.3/4 .

¹⁰¹ See chapter 2 section 2.2.

¹⁰² Out of a total of 5 national REDD-plus strategies completed. *Infra*, Annex A.

¹⁰³ The methodology for this part of the research is based on a textual analysis, on the qualitative and comparative assessment of the information and on the statistical occurrence of key terms that indicate whether or not sufficient consideration was given to the issues listed in Annex C. No attention was

R-PPs uses a scoring system¹⁰⁴ to assess the statistical occurrence and quality of treatment of selected issues.¹⁰⁵ This is possible due to the healthy number of documents considered as well as their relative uniformity. By contrast, FIP Investment Plans and national REDD-plus strategies are too few (and often in draft form) to draw credible conclusions on their adequacy; moreover, their content is less uniform and therefore it does not allow a systematic comparison. Instead, the strengths and weaknesses of each document are analysed in a discursive fashion.¹⁰⁶

It is important to bear in mind the different goals and functions of each type of document. The R-PP helps identify institutional arrangements and procedures to implement REDD-plus policies and distribute positive incentives, as well as the key obstacles to their success; the national REDD-plus strategy addresses the political aspects of the programme, looking in particular to set up a legal, institutional and policy framework that promotes its integration with development policy; the Investment Plan aims to promote transformational change by funding innovative demonstration activities at project or jurisdictional level (supported by the private sector) as well as strategic interventions at the policy level.

Even taking into consideration such differences, the contrast between documents is remarkable. The R-PPs concluded more recently (particularly since the introduction

paid to the practical viability of the proposed solutions, for obvious reasons. The list of key words is too long to be included in the research; as a means of example, some of the terms researched are: stakeholder map, dispute resolution, law enforcement, corruption, proximate/indirect drivers/causes, customary/informal tenure, accountability, access to information, roadmap and so forth.

¹⁰⁴ Each R-PP is given a score of zero if it does not address an issue, one if it addresses it incompletely, and three if it addresses adequately. The assessment is issue-based using the sum of the country scores on each of the twenty-seven issues considered. This value can range from 0 (no document addresses the issue) to 57 (all documents adequately address the issue). The scoring system is organised as follows: total score equal to or higher than 45 = the issue is adequately addressed in the large majority of documents; score equal to or higher than 35 = the issue is adequately addressed in some countries but not in others; score equal to or higher than 20 = the issue has received consideration but most documents do not adequately address it; score lower than 20 = the issue is inadequately considered or ignored in most countries. See Annex C for more details.

¹⁰⁵ These are: stakeholder participation; government coordination; transparency and accountability in financial matters; monitoring of readiness activities; land and forest tenure; forest management capacity and arrangements; law enforcement capacity; drivers' analysis; implementation costs and times; political strategy. Twenty-seven guiding questions covering the above issues are listed in Annex C. Some of such questions are adapted from an assessment carried out by the NGO World Resource Institute: Goers-Williams et al, 'Getting Ready: A Review of the World Bank Forest Carbon Partnership Facility Readiness Preparation Proposals' (WRI 2012) <www.wri.org/publication/getting-ready> Accessed 10 February 2014.

¹⁰⁶ See Annex C, tables 14 and 15.

of the last template)¹⁰⁷ are of a much higher standard than those concluded previously. The majority of R-PPs contain an adequate analysis of the drivers of deforestation (score 37 out of 57) and forest degradation (score 40), although in some cases the analysis is superficial; less often are the proposed REDD-plus policies and measures linked to the drivers' analysis (30). The establishment of a forest management system is considered thoroughly in some documents and much less so in others (36); there is, however, a general recognition that effective forest management must involve other stakeholders (39). A stakeholder analysis is ubiquitous (45) and mechanisms for stakeholder engagement are usually proposed, with various degrees of detail (42). Participation is mostly based on consultation and the process is often carried out at various government levels (40). On a less positive note, the documents most commonly fail to establish systems to promote government accountability vis-a-vis the stakeholders (20) and/or grievance mechanisms (23). Moreover, they generally lack a clear political strategy (23), although stakeholder mapping contributes should contributes to its subsequent elaboration.

Virtually all analysed R-PPs consider REDD-plus in the context of other sectoral activities, particularly agriculture and timber production, and in the broader context of national development strategies (49). However, multi-sector coordination is promoted through the establishment of *ad hoc* institutions at ministerial level or directly under the control of the cabinet (e.g. a REDD-plus steering committee, a REDD-plus strategy and so forth) whose coordinating powers are sometimes unclear/unspecified (37). Similarly, the need to coordinate action across levels - while implicitly recognised in all documents - does not always result in explicit multi-level coordination mechanisms (35). Tenure is discussed in virtually all documents but in many cases only superficially, with no dedicated strategies proposed to address outstanding problems (36). No consideration is given to the administration's capacity to solve tenure conflicts (9). With regards to forest law, the R-PPs generally seek to frame regulatory activity on REDD-plus within the existing legal and policy framework and in some cases suggest the enactment of specific laws as well as the revision of old ones (40). Consideration of law enforcement capacity is

¹⁰⁷ FCPF/UN-REDD (n 62).

inconsistent (32), while mention of corruption problems is either absent or inadequate in all documents (8).

The management of REDD-plus finance is underdeveloped. In particular, very little consideration is given to embedding transparency and accountability in the revenue management system (24) and virtually no measures are proposed to increase transparency (15), except the general provisions on access to information discussed below. Participation in readiness preparation extends in some cases to discussion on benefit-sharing mechanisms (25), but little consideration is given to reviewing lessons from previous programmes (22). Monitoring and evaluation of readiness activities is generally insufficient. A healthy number of documents support efforts to spread information and awareness raising but no specific mechanisms are usually established (32); moreover, the proactive dissemination of information, while good, may be manipulated by the government if independent access to information is not ensured and mechanisms for independent oversight are not established (11). The documents give scant recognition to monitoring governance and the safeguards (21). On a more positive note, the R-PPs contain a generally exhaustive and detailed summary of costs for each component (50). By contrast, the times of implementation are often vague, limited to the short term and used as supporting information for receipt of funding (25); there is little or no discussion of the actual time needed to implement the proposed activities and timeframes are often unrealistically short (possibly, because the document itself requires the achievement of certain objectives in the interim period until 2012 for old documents or until 2015 for new ones).

With regards to the FIP Investment Plans, it is possible to make some preliminary comments on their strengths and weaknesses, bearing in mind the caveat that not enough documents have been published to provide a conclusive assessment at this stage. The assessment is overall positive, the documents being fairly comprehensive and detailed. Most plans contain a good analysis of drivers and support activities that can be scaled-up. In the attempt to address the drivers, cross-sectoral integration and the harmonisation of the legal and policy frameworks are generally considered in some detail. The focus on addressing forest loss across the various sectors of the economy is remarkable, as it is the attempt to integrate programme activities within national policy. Institutional aspects and capacity-building needs are also given good consideration and so are the non-carbon benefits of the proposed action. Costs and

timetables are always included, although in a few cases they are rather vague (perhaps to ensure flexibility). On a less positive note, monitoring and evaluation of progress is more often than not poorly addressed in the document; there is also a weak analysis of institutional risks and crime, and inadequate provisions on revenue transparency. There also seems to be a bias towards projects that support community-level action despite recognition that the drivers are very often of an industrial nature.

Finally, national REDD-plus strategies are the least detailed documents in terms of goals, language and concrete proposals. They have some recurrent strengths, including the emphasis on coordination across sectors and levels of government, stakeholder participation, integrated management of multiple funding sources, focus on institutions and attempts to reconcile REDD-plus activities with a broader vision of development. However, the documents are less impressive than those concluded with the support of multilateral institutions. Common flaws include the lack of a political strategy, the vagueness of the proposed vision, the absence of timetables, inadequate consideration of governance and institutional capacity gaps, weak or non-existent monitoring and evaluation processes, scarce attention to transparency and a general lack of details on the proposed measures. The lower level of detail of the national REDD-plus strategies can be caused by many factors, including the nature of the document, the absence of international support and oversight, a choice not to repeat information contained in R-PPs and FIP Investment Plans, as well as a lack of interest by developing countries. However, the issue is worrying: first, because the national REDD-plus strategy is the only mandatory document to access results-based payments, pursuant to paragraph 71 of the Cancun Decision;¹⁰⁸ second, because the national REDD-plus strategy is one of the main results of the readiness preparation process, hence countries should be in a position to produce good quality documents; finally, this may confirm Sharma's suggestion that developing countries have approached plan-making as a tick-boxing exercise to receive international funds.¹⁰⁹

¹⁰⁸ UNFCCC (n 2).

¹⁰⁹ Sharma, *Planning to deliver: Making the Rio Conventions more Effective on the Ground: Climate Change, Biodiversity, Desertification* (GTZ 2009) 7.

The international readiness process has many positives and, on the whole, provides a solid basis to identify and address the regulatory, institutional and capacity gaps affecting the effectiveness of national REDD-plus actions. Its major strength has been the ability to advance understanding and action in areas of policy that are normally precluded to the international legislator or discussed in vague terms of aspirational goals. The extent of participation in readiness activities and the great financial, analytic and political effort spent in their management are what differentiate REDD-plus from other legal regimes that use planning tools to foster implementation. The fact that these activities have taken place prior to the conclusion of such regime is a testament to the impact that REDD-plus has already had on forest governance across the tropics, at least at the level of discourse.

Part of the reason for this success is that the international organisations managing the readiness process have managed to strike a balance between harmonising international practice and giving developing countries flexibility in policy design without superimposing blueprint solutions. This approach has made it politically more palatable to discuss such matters internationally by encouraging national ownership of the reforms. It would be incorrect to suggest that international readiness does not influence a country's approach to forest and land governance reform, but the freedom in drafting their national REDD-plus strategy, setting their priorities and building the accompanying institutional architecture enjoyed by developing countries is a positive development in international cooperation. The equal representation of developing and developed countries in the steering committee of multilateral readiness organisations also ensures that donors do not dominate the process.¹¹⁰

The polycentric nature of readiness is advantageous because multilateral organisations are free to apply their own internal safeguards, which are stricter and

¹¹⁰ It can be argued that donor countries influence is more indirect. For instance, the neoliberal bias of the World Bank is evident in the emphasis R-PPs templates put on tenure reforms, decentralisation and carbon MRV. The FIP investment plans, besides also being biased towards private sector cooperation, are assessed by independent reviewers based on internal rules of multilateral development banks which are arguably dominated by western concepts and values.

more detailed than those agreed in the text.¹¹¹ At the same time, the process has drawn on the considerable expertise of multilateral institutions in the areas of governance and natural resource management, which partly compensates for the lack of domestic capacity in developing countries. The fluid and open nature of the process has also allowed its continued improvement thanks to the input of relevant stakeholders and the lessons learned in the field. The latest version of the R-PP template document has addressed many of the comments and criticisms that were levied against previous versions by civil society organisations and now gives a comprehensive account of the elements of governance to be considered by national policymakers, substantiating the generic provisions of the safeguards. Investment Plans give more succinct guidance to countries but the involvement of multilateral experts in a joint drafting process also produces rather comprehensive documents.

The role of multilateral institutions has also ensured that readiness policies and measures are formulated and implemented in a more transparent way than they would otherwise be. R-PPs and national REDD-plus strategies are published online, and civil society organisations are asked to provide comments on the validity and congruency of these documents.¹¹² R-PPs are typically resubmitted a couple of times before they are granted approval by the steering committee while Investment Plans are subjected to an independent review to ensure they meet the quality assurance procedures of the multilateral development banks.¹¹³ The difference between R-PPs submitted a few years ago and those submitted a few months ago is striking: the new ones are more comprehensive, specific, clear and realistic. This proves that an iterative process of continued assessment and improvement by other countries and with the input of civil society is an effective way of promoting compliance. Access to information and participation are important at the domestic as well as the

¹¹¹ Plainly, this advantage is contingent to this situation as it depends on the organisational safeguards of funding entities. It cannot be concluded, therefore, that a polycentric approach is inherently superior to centrally defined policy guidance.

¹¹² For example, BIC/FPP, Comments on the Revised R-PP Template, SESA and ESMF Guidelines (BIC 2010) <www.bicusa.org/wp-content/uploads/2013/02/FCPF+UN-REDD+Stakeholder+Guidelines+Note+Draft+11-17-10+2-1.pdf> Accessed 10 February 2014.

¹¹³ CIF, Procedures for the Preparation of Independent Technical Reviews of investment plans under the Forest Investment Program (2011) paragraph 8 <www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/FINAL_Procedures_for_the_Preparation_of_Independant_Technical_Reviews_of_FIP_IPs_November2011.pdf> Accessed 10 February 2014.

international level. The Investment Plans are also of a good quality, because they benefit from the experience of the R-PP preparation and also from the expertise of FIP staff. This is also a good way of assisting countries prepare for national implementation, as already experimented in other MEAs.¹¹⁴

Readiness activities have already generated some positive outcomes. Virtually all countries now have a better idea of what sectors, activities and actors are driving forest loss, and the normally hidden politico-economic dynamics that cause or oppose forest loss are coming to the fore in public debates. Many countries are trying to coordinate forest-related activities across government sectors by creating *ad hoc* bodies and task forces. Some countries have undertaken an analysis of their domestic legislation and have embarked upon complex reforms to clarify, simplify and harmonise the laws and regulations impacting on forests. There is generally good consideration of how to integrate emerging REDD-plus policy within existing legal and policy frameworks for environmental protection and, more sporadically, also those relating to agriculture, timber production and other drivers.

4.3. Challenges and new approaches in domestic implementation

4.3.1. Political challenges to governance reform

The combination of COP guidance with technical and financial support from international readiness organisations, with its incentive-based, flexible and iterative approach, has encouraged participation and reduced monitoring and enforcement requirements, and may counter-intuitively favour compliance. However, it is unclear whether this system will achieve the ambitious changes it is advocating. The implementation of plans and strategies concluded under other multilateral environmental agreements tells a cautionary tale.

National and subnational planning is a well-established tool in international environmental law. Agenda 21 states that “national strategies, plans, policies and

¹¹⁴ E.g., note the Ramsar Advisory Missions mechanism: Ramsar Convention COP 4, Recommendation 4.7: Mechanisms for improved application of the Ramsar Convention (1990) REC. C.4.7 (Rev.).

processes are crucial to [...] its successful implementation”¹¹⁵ and the three Rio Conventions¹¹⁶ use strategies and action plans to align their implementation with national development planning.¹¹⁷ As seen earlier, the UN has pressed forward with the idea of national forest programmes as a tool to promote sustainable forest management even in the absence of a global convention on forests coming out of the Rio Summit. Older treaties have also incorporated national plans of a similar character in their practice.¹¹⁸

Such plans share many characteristics with REDD-plus readiness documents: they follow guidelines or principles promulgated by a law-making body (the COP in the case of plans concluded under a MEA,¹¹⁹ an international organisation in the case of national forest programmes);¹²⁰ such guidelines and principles are similar to those

¹¹⁵ *Report of the UN Conference on Environment and Development* (13 June 1992) UN Doc A/CONF.151/26 (Vol. I-III), preamble 1.3.

¹¹⁶ These are the treaties concluded at the 1992 Earth Summit in Rio de Janeiro: UNFCCC, CBD and UNCCD. UNCCD was not adopted at Rio, but UNCED called on the UN General Assembly to establish an Intergovernmental Negotiating Committee to prepare the Convention.

¹¹⁷ The Convention on Biological Diversity requires each Party to “develop national strategies, plans or programmes for the conservation and sustainable use of biological diversity” and to “integrate, as far as possible and as appropriate, the conservation and sustainable use of biological diversity into relevant sectoral or cross-sectoral plans, programmes and policies”, United Nations Convention on Biological Diversity, Rio De Janeiro, 5 June 1992 (in force 29 December 1993) 1760 UNTS 79, article 6. The UNFCCC calls for the adoption of National Adaptation Programmes of Action to identify and communicate priority adaptation activities in least developed countries, UNFCCC COP Decision 6/CP.7 (2001) UN Doc FCCC/CP/2001/13/Add.1, paragraph 1(a). The Convention to Combat Desertification requires Parties to develop National Action Programmes: United Nations Convention to Combat Desertification (adopted on 17 June 1994, entered into force 26 December 1996) 1954 UNTS 3 (UNCCD), articles 9-10.

¹¹⁸ For instance, the Ramsar Convention now requires the adoption of National Wetland Policies (also called National Wetland Strategies and National Wetland Plans). In 2008, the COP reiterated the call for Parties to “formulate their Wetland CEPA Action Plans (at national, subnational, catchment, or local levels) for priority activities that address international, regional, national, and local needs” Ramsar COP10, Resolution X.8 (2008), paragraph 13.

¹¹⁹ CBD regime: R.T. Hagen, *A Guide for Countries preparing National Biodiversity Strategies and Action Plans* (UNDP 1999); CBD Secretariat, *The Biodiversity Planning Process: How to Prepare or Update a National Biodiversity Strategy and Action Plans* (NBSAP training modules version 2.1, 2011) <www.cbd.int/doc/training/nbsap/b2-train-prepare-update-nbsap-revised-en.pdf> Accessed 10 February 2014. UNCCD criteria have been further elaborated in a number of decisions taken by the COP and by the Committee for the Review of the Implementation of the Convention (CRIC). Ramsar has perhaps the most extensive set of international guidelines: Ramsar Convention Secretariat, *Handbooks for the wise use of wetlands* (4th ed., Ramsar Secretariat 2010).

¹²⁰ ECOSOC, Report of the Ad Hoc Intergovernmental Panel on Forests on its fourth session (1997) UN Doc E/CN.17/1997/12.

put forward in REDD-plus;¹²¹ they increasingly seek collaboration with the private sector and the use of ecosystem services in implementation;¹²² and they are flexible instruments to be constantly updated and improved through participatory processes. It is therefore possible to learn from these experiences in order to better understand readiness.

The impact of national plans undertaken under the Rio Conventions is decidedly underwhelming. 177 Parties to the Biodiversity Convention have submitted national biodiversity strategies and action plans pursuant to article 6, receiving financial support of over US\$3 billion per year.¹²³ Yet the implementation of biodiversity plans was hampered by the lack of a roadmap, of adequate technical and financial resources,¹²⁴ and of operational guidance on how to mainstream environmental concerns in the activity of other sectors and government agencies.¹²⁵ The international community has missed the 2010 global biodiversity target quite spectacularly, with the rate of biodiversity loss increasing rather than diminishing since the adoption of the Convention.¹²⁶

The UNCCD has also distributed substantial financial support (averaging US\$1.5 billion in the years 2005-2007)¹²⁷ to pursue the objectives set out in the national plans submitted so far. But these plans have been described as wish-lists of objectives with no concrete measures to guide implementation;¹²⁸ only in a few

¹²¹ They are in fact based on the established principles of international environmental law, such as those listed in the Rio Declaration (n 47).

¹²² See chapter 3 box 3.5.

¹²³ CBD Secretariat, *Global Monitoring Report 2010: Innovative Financing for Biodiversity* (CBD 2011) 24 <www.cbd.int/financial/doc/global-monitoring-report-en.pdf> Accessed 10 February 2014.

¹²⁴ Swiderska, *Mainstreaming biodiversity in development policy and planning: A review of country experience* (IIED 2002); Prip et al, *Biodiversity Planning: an assessment of national biodiversity strategies and action plans* (UN University Institute of Advanced Studies 2010) 27.

¹²⁵ CBD Secretariat, *Synthesis and analysis of obstacles to implementation of National Biodiversity Strategies and Action Plans: Lessons learned from the review, Effectiveness of policy instruments and strategic priorities for action* (2007) UN Doc UNEP/CBD/WG-RI/2/Add.1.

¹²⁶ Adams, 'Missing the 2010 Biodiversity Target: A Wake-up Call for the Convention on Biodiversity?' (2010) 21(1) *Colo. J. Int'l Env'tl. L. & Pol'y* 123-66; Millennium Ecosystem Assessment, *Ecosystems and Human Well-being: Synthesis* (Island Press 2005) .

¹²⁷ OECD, *Measuring aid targeting the objectives of the Rio Conventions* (OECD 2009) <www.oecd.org/dac/stats/analyses> Accessed 10 February 2014.

¹²⁸ Sporton, Stringer, 'Defining the UNCCD's comparative advantage in current international architecture, International perspective' (undated Draft), cited in: Sharma (n 111) 22.

countries have they been incorporated in the national budget; and political ownership of the process remains a challenge,¹²⁹ partly because the rhetoric on participation was not matched by reality.¹³⁰ As a result, desertification is advancing unabated at an alarming pace, and the Convention is generally regarded as having had marginal ecological and social consequences.¹³¹

The national forest programmes were no more successful. In terms of result, the soaring deforestation rates of the 1990s and 2000s show the general ineffectiveness of this tool in the developing world. Despite the fact that more than 130 countries are developing or implementing national forest programmes,¹³² Schanz notes that such documents have been ineffective because the vagueness and ambiguity of the guiding principles have led to arbitrariness and lack of clarity in programme formulation and implementation.¹³³ The failure of national forest programmes is particularly worrying for national REDD-plus strategies because both documents aim at promoting sustainable forest management through country-led efforts, are process-oriented and focus on similar matters.¹³⁴ At the same time, both fail to explain how reforms will be delivered, both are voluntary, and both are non-standardised hence difficult to assess comparatively.¹³⁵

The experience of the Ramsar Convention is somewhat more encouraging. A draft assessment of the impact of National Wetland Policies found that they are associated with a better overall wetland status in the adopting countries.¹³⁶ Bowman has observed that overall the Ramsar Convention has achieved “considerable progress

¹²⁹ Bodemeyer, *National Action Programmes under UNCCD: Rules and Reality* (GTZ 2007).

¹³⁰ Sharma (n 99) 15-19; see also Stringer et al, ‘Implementing the UNCCD: Participatory challenges’ (2007) 31(3) *Issue Natural Resources Forum* 198, particularly at 200-206.

¹³¹ Kohlmeyer, ‘The Convention to Combat Desertification: Relevant or a relict?’ (2007) 1 *Agriculture & Rural Development* 26, at 26-7.

¹³² FAO (n 43) vii.

¹³³ Schanz, ‘National forest programmes as discursive institutions’ (2002) 4 *FORPOL* 269, at 269.

¹³⁴ Such as capacity-building, participation mechanisms, tenure security, decentralisation, respect for local rights, integration with a country’s sustainable development strategies, legal and institutional reforms, private sector investments and so forth.

¹³⁵ Schanz (n 135) 170.

¹³⁶ Prtichard, ‘The Ramsar Convention on Wetlands and its indicators of effectiveness’ (International Expert Workshop on the 2010 Biodiversity Indicators and Post-2010 Indicator Development, Reading, July 2009) UN Doc UNEP/WCMC/Post-2010/0709/8d, p. 6.

[...] in the realms of wetland conservation”,¹³⁷ but it can be argued that this positive assessment should be seen against the relatively low expectations generated by the Convention. Moreover, the guidance provided by the Ramsar Secretariat to implementing parties is considerably more detailed than that given by REDD-plus.

Sharma noted that these documents are undermined by a lack of political will in developing countries to implement demanding reforms, particularly those that affect power distribution. Several governments have made high-level commitments to support REDD-plus,¹³⁸ and early legal and institutional arrangements are a promising sign of a genuine attempt to mainstream REDD-plus in national policy.¹³⁹ However, efforts to translate this rhetoric into practice face politico-economic challenges and may be frustrated by entrenched mechanisms of *status quo* preservation. A sound strategy is for REDD-plus to foster domestic demand for reform. First, the emphasis on stakeholder participation in the preparation of national strategies can help uncover conflicts of interest and generate sufficient political support for the programme. Second, the step-by-step assistance provided in the readiness process can help devise sound political strategies and empower key stakeholders. Finally, potentially large economic incentives can sway public opinion in favour of the programme. These characteristics tell REDD-plus apart from other regimes and may work in favour of national strategies.

¹³⁷ Bowman, ‘The Ramsar Convention on Wetlands: Has it Made a Difference?’ (2002-03) Yearbook of International Co-operation on Environment and Development 61.

¹³⁸ For instance, the President of Indonesia Susilo Bambang Yudhoyono has been at the forefront of the discussions in multilateral meetings, promising in 2011 to dedicate his subsequent three years of presidency to Indonesia’s forests: Lang, ‘President Yudhoyono promises to dedicate the next three years to protecting Indonesia’s forests’ (REDD-plus Monitor, 28 September 2011) <www.redd-monitor.org/2011/09/28/president-yudhoyono-promises-to-dedicate-the-next-three-years-to-protecting-indonesias-forests> Accessed 10 February 2014. In Guyana, the change of presidency has not changed the government’s rhetorical approach to forest protection, as framed in the context of the high-level agreement with Norway: GINA, ‘Guyana committed to full-fledged implementation of Guyana/Norway climate pact’ GINA (Georgetown, 25 April 2013) <<http://gina.gov.gy/wp/?p=10538>> Accessed 10 February 2014.

¹³⁹ For a review of REDD-plus policies and institutional arrangements in selected countries, see table 5 at page 181.

4.3.2. Future prospects for REDD-plus: from forests to landscapes?

Although REDD-plus should be implemented in the context of sustainable development, the tension between environmental and development objectives remains unresolved in practice. What is needed is a conceptualisation of sustainable development that can guide decision-making in forest areas. Initially, the UNFCCC held discussions on including agriculture in REDD-plus, but this issue was postponed to avoid further complicating the negotiations at a time when getting REDD-plus done was better than getting it right.¹⁴⁰

At the 2013 Warsaw COP two high profile side-events gave new vigour to integrative approaches to governance that had been hovering around REDD-plus discussions for a while. The idea of ‘sustainable landscapes’ was re-introduced in the debate as the conceptual and physical space in which the human and natural subsystems collide.¹⁴¹ Over 1,200 experts and decision-makers from the forestry, agricultural and rural development communities gathered at the Global Landscape Forum to discuss ways to integrate, *inter alia*, forest and agricultural mitigation, adaptation, poverty alleviation, biodiversity and good governance objectives in sectoral policies.¹⁴² The Forum’s first contribution was a list of 12 recommendations for the UNFCCC and the UN General Assembly. It remains to be seen whether and to what extent these recommendations will be incorporated in future COP decisions on REDD-plus or in the work of other international organisations.¹⁴³

¹⁴⁰ Reference to agriculture was for the first time made in Durban: J. Parry, J. Boyle, *Addressing Financing for Agriculture: Ensuring a triple dividend for smallholders* (IISD 2012) 9. ‘Mitigation of Climate Change in Agriculture (MICCA) Programme’ (FAO 2010) <<http://www.fao.org/climatechange/micca/75369/en>> Accessed 10 February 2014.

¹⁴¹ This idea is not new. In 1992 the World Heritage Convention became the first international instrument to recognise and protect cultural landscape as “combined works of nature and of man” (article 1): Convention for the Protection of the World Cultural and Natural Heritage (adopted 16 November 1972, entered into force 17 December 1975) 1037 UNTS 151. In 2000 the member states of the Council of Europe adopted the European Landscape Convention (also known as the Florence Convention) which aims to promote Europe-wide landscape protection, management and management: European Landscape Convention (adopted by the Council of Europe at Florence, 20 October 2000, in force since 1 March 2004) ETS 176, article 3 .

¹⁴² Global Landscapes Forum Outcome Statement (Warsaw, 4 December 2013) <www.landscapes.org/global-landscapes-forum-outcome-statement/#.UsF3_dJDt0g> Accessed 10 February 2014.

¹⁴³ Prior to the launch of the Global Landscape Forum, REDD-plus discussions were influenced by another high-level event called ‘Forest Day’, which was held in six consecutive occasions at

The emerging focus on landscapes was confirmed by another high profile initiative launched at Warsaw. The ‘BioCarbon Fund for Sustainable Forest Landscapes’ is an initiative managed by the World Bank and supported by Norway, the UK and the US, which aims to help “national or jurisdictional governments to consider the trade-offs and synergies between different land-uses that may compete in a jurisdiction - such as agriculture, energy, and forest protection - and successfully identify integrated solutions that serve multiple objectives”.¹⁴⁴ The BioCarbon Fund takes an integrated approach to REDD-plus by supporting development that is “climate smart, equitable, productive and profitable at scale and strives for environmental, social, and economic impact”.¹⁴⁵ It seeks to create a portfolio of four to six jurisdictional programmes in forest-agricultural landscapes and, in cooperation with global and local companies in the agricultural and food sectors, to reduce the environmental impact of production by influencing their demand for sustainably sourced products. The Fund will provide grant support for the “creation of enabling environments that change the way land-use decisions are made” as well as results-based payments for emission reductions and the achievement of other social and environmental benefits.¹⁴⁶

These two initiatives may signal a shift towards landscape approaches in REDD-plus practice. The landscape is large enough to be encompassed in *ad hoc* policies and large-scale spatial plans, sufficiently cohesive to tackle particular categories of drivers and to involve a relatively homogeneous category of stakeholders and inherently cross-sectoral. Landscape governance drives forward the integration principle¹⁴⁷ and it provides a conceptual and physical space for the creation of political consensus about land and natural resource use. If adequately incorporated in REDD-plus strategies and actions, the landscape approach can certainly improve

UNFCCC COP from 2007 to 2012. This event had considerable influence in setting the agenda and framing the terms of the REDD-plus negotiations.

¹⁴⁴ World Bank, *BioCarbon Fund, Initiative for Sustainable Forest Landscapes* (World Bank 2013) <www.worldbank.org/content/dam/Worldbank/document/SDN/BioCF_ISFL_Flyer.pdf> Accessed 10 February 2014.

¹⁴⁵ *Ibid.*

¹⁴⁶ *Ibid.*

¹⁴⁷ Matthews, Selman, ‘Landscape as a Focus for Integrating Human and Environmental Processes’ (2006) 57(2) *Journal of Agricultural Economics* 199.

their acceptability and effectiveness. For this reason, the concept of ‘sustainable forest landscapes’ will be used in this discussion as a proxy policy objective for REDD-plus carbon and non-carbon goals, and it will be intended to incorporate criteria of multi-sector, multi-stakeholder and multi-level governance. This concept will be particularly useful in the second part of the research.

The first part of the research has shown that both positive incentives and policy approaches are needed to establish an effective multi-level governance system that reduces forest loss. REDD-plus follows a two-track pattern: on the one hand, ‘positive incentives’ are generated at the international level and delivered to national authorities principally through results-based payments for quantified emission reductions and removals; on the other hand, ‘policy approaches’ are nationally-owned but follow international guidelines and benefit from international assistance.

The progress of governance-building activities and the availability of financial resources overlap. The realisation of governance reforms clearly depends on the availability of adequate and predictable incentives, which stresses the importance of providing substantial funding for readiness activities that do not necessarily generate emission reductions. At the same time, a good domestic governance framework for REDD-plus could help bridge the programme’s funding gap by increasing the cost-efficiency of results-based activities as well as by attracting private investments in sustainable activities. There is, therefore, a recognised need to build the conditions for involving the private sector and other subnational actors in REDD-plus through and beyond the carbon markets.

REDD-plus has flirted with the idea of creating a system of multi-level governance based on transnational markets, local empowerment and a marginal role of national governments that would have validated Rhodes’ theory of the hollowed out State. However, it has then tilted towards a system of governance that, while still rejecting government control, builds on a strong State. How much State intervention will or should be encouraged under REDD-plus is unclear. Part II of the research will try to answer this question by looking at the role of the State in the context of three policy catalysts for establishing a multi-level governance system for sustainable forest landscapes.

Part II

The national and subnational levels of REDD-plus: policy catalysts for improving domestic governance

The second part of the research considers the domestic governance framework needed to achieve sustainable forest landscapes under REDD-plus. It identifies four areas of policy that need consideration. First, there is a need for legality in the forest sector of developing countries, too often plagued by crime, violence and corruption. Second, stakeholders must have clear and secure rights and responsibilities. Third, a permanent system for the collective definition of the optimum use of the landscape must be established. Fourth, it is necessary to create an efficient system for the distribution of financial and technical support for implementing the changes identified collectively.

Contextually, it proposes three catalysts for public policy interventions under REDD-plus: tenure reform, spatial planning and financial intermediation. Chapter 5 argues that tenure security clarifies stakeholder rights and responsibilities, encouraging sustainability, reducing conflicts and consequently the space for illegality. Chapter 6 shows that the establishment of an effective spatial planning system disseminates information, builds consensus over sustainable development policies, and helps to identify synergies among different sectors and policy options. Chapter 7 suggests that a national infrastructure for the distribution of financial support to environmentally sustainable activities can foster green investments from non-REDD-plus sources. In all such areas the State does not have exclusive control over the decision-making process but rather an important role of coordination and facilitation.

Building legality through tenure security

The first policy catalyst for REDD-plus implementation is tenure security. Secure tenure builds the foundations for the establishment of a rational regime of forest governance because it defines the rights and responsibilities of forest stakeholders in a context often dominated by corruption, crime and conflict. This is a *conditio sine qua non* for subnational results-based payments and for addressing the drivers. Section 5.1 explores the links between forest crime and tenure insecurity and the benefits that tenure reform would have for REDD-plus. Section 5.2 discusses some domestic measures to improve tenure in tropical forests. Section 5.3 explores the international dimension of tenure security and REDD-plus potential contribution to tenure reforms.

5.1. The link between illegality and tenure in tropical forests

5.1.1. Illegality, forest loss and existing international responses

Deforestation can take place pursuant to legal activities by the State or private actors or it can result from illegal or unlawful activities.¹ Illegal deforestation is very common across tropical forest regions and, according to Rosembaum,² it is caused by two factors:

- Failure of the law: clashes of norms, poorly drafted laws (which makes enforcement difficult), weak penalties and conflict of legislation;
- Failure of implementation: poor dispute resolution, unfair application, bureaucratic inefficiency of law enforcement agencies, lack of capacity and

¹ Skutsch, Van Laake, 'REDD as multi-level governance in-the-making' (2008) 19(6) Energy & environment 833.

² Rosembaum, 'Illegal Actions and the Forest Sector: A Legal Perspective' (2004) 19 (1-3) J. of Sust. For. 263, at 266.

coordination, lack of cross-sectoral enforcement of laws and lack of government oversight.

Chapter 2 showed that the rule of law is very weak in developing countries. This problem is even more acute in forest areas. Knox et al note that “state presence in many rural or less populated forest areas is minimal or even absent” and that, where it exists, officials regularly lack the equipment and technical capacity necessary to perform their jobs.³ Investments in law enforcement capacity in Brazil are seen as instrumental to the recent reduction in deforestation in the Amazon,⁴ but in most tropical countries the situation is still critical. Poor law enforcement in tropical forest regions has been widely documented.⁵ For instance, illegal logging is estimated to contribute between 70 and 90 percent of the total timber production in several tropical countries, and even in countries with high law enforcement capacity such as Brazil, Vietnam and Malaysia it is still estimated to account for between 20 and 40 percent.⁶ This causes losses in assets and revenues in excess of US\$10 billion annually and a further US\$5 billion is lost because of evaded taxes and royalties on legally sanctioned logging.⁷

The rule of law is the fundamental prerequisite to the implementation of both public policy and market instruments. No protective measure, contract, transaction or investment can be safely and effectively performed in a context of rampant illegality. International stakeholders would not have any assurance that developing countries (or local partners in developing countries) will be able to reduce forest emissions, despite their best intentions, unless agents have confidence in and abide by the rules of society.

³ Knox et al, ‘Land tenure and payment for environmental services: challenges and opportunities for REDD+’ (2011) 2 Land Tenure Journal 17, at 48.

⁴ Boucher, *Brazil's Success in Reducing Deforestation* (UCS 2011) <www.ucsusa.org/assets/documents/global_warming/Brazil-s-Success-in-Reducing-Deforestation.pdf> Accessed 10 February 2014.

⁵ For an overview and impacts, see: Lawson, MacFaul, *Illegal Logging and Related Trade Indicators of the Global Response* (Chatham House 2010); Tacconi, *Illegal logging: law enforcement, livelihoods and the timber trade* (Earthscan 2007); Human Rights Watch, *Wild Money: The Human Rights Consequences of Illegal Logging and Corruption in Indonesia's Forestry Sector* (HRW 2009).

⁶ HRW (n 5) 9.

⁷ World Bank, *Strengthening Forest Law Enforcement and Governance Addressing a Systemic Constraint to Sustainable Development* (World Bank 2006) 1.

Improving the rule of law in REDD-plus countries is a huge task requiring far-reaching reforms of the judiciary, law enforcement and – to some extent – local culture. But more targeted measures can be employed, and are being employed, to address and uphold the rule of law in the forest sector. Below are some prominent international initiatives that address specific areas of illegality.

The World Bank’s Forest Law Enforcement and Governance (FLEG)⁸ programme includes three regional initiatives in East Asia and the Pacific, Africa, and North Asia and Europe which “create the political ‘space’ at national and regional levels to address the complex and politically sensitive issues related to illegal logging, and in partnership with major stakeholders from civil society and the private sector”.⁹ One of the programme’s main achievements is the incorporation of illegal logging and forest crime in the work agenda of regional organisations. The programme has arguably been more effective at the national level where it has facilitated the conclusion of National Action Plans to prevent illegal logging in a small subset of countries.¹⁰ Its impact is still limited, particularly because of its scarce penetration in the tropics and soft political nature.

A more incisive initiative is the EU Regulation and Action Plan on Forest Law Enforcement, Governance and Trade (EU FLEGT),¹¹ a voluntary licensing scheme which focuses on trade in timber products. The European Commission negotiates the implementation of the licensing scheme with timber producing countries with a view to concluding Voluntary Partnership Agreements (VPAs). These bilateral agreements allow EU Member States to take measures against the import of illegal timber and help exporting countries to develop a legal, monitoring and enforcement framework to implement the licensing scheme. VPAs include a Legality Assurance

⁸ ‘Forest Law Enforcement and Governance’ (World Bank 2013) <<http://go.worldbank.org/FMKUFABJ80>> Accessed 10 February 2014.

⁹ ‘Regional Forest Law Enforcement and Governance (FLEG) Initiatives’ (World Bank 2013) <<http://go.worldbank.org/32M8CUBPN0>> Accessed 12 July 2013.

¹⁰ World Bank (n 7) 16-8.

¹¹ The legal framework for this scheme is established by the Council Regulation (EC) No 2173/2005 of 20 December 2005 on the establishment of a FLEGT licensing scheme for imports of timber into the European Community (2005) OJ L347, articles 1-6 and further regulated in the Commission Regulation (EC) No 1024/2008 of 17 October 2008 laying down detailed measures for the implementation of Council Regulation (EC) No 2173/2005 on the establishment of a FLEGT licensing scheme for imports of timber into the European Community (2008) OJ L 277, articles 23-9.

System, which sets up a procedure for verifying legality throughout the supply chain, establishes independent monitoring and verification of forest management practices, and sets out a plan with clearly defined, time-bound actions for improving forest governance and social safeguards.¹² The EU FLEGT initiative is considered an effective model of international cooperation for forest protection, because of its incisiveness and the significance of trade incentives.¹³ The EU believes that considerable overlaps exist between REDD-plus and FLEGT beyond the issue of legality, and that a convergence of approaches is therefore needed as well as efforts to promote mutual learning and supportiveness.¹⁴ Box 5.1 below sums the potential complementarities between FLEGT and REDD-plus. The scheme is currently being implemented in six countries, while nine more are in advanced negotiations and 11 have sought information about the VPAs.¹⁵ Although no country has yet achieved licensing status the VPA requirements are triggering far-reaching measures to improve transparency, monitoring and enforcement capacities in the forestry sector.¹⁶ The scheme is limited to logging activities, hence it excludes the major deforestation drivers, but lessons learned tackling illegal logging and other forest degradation drivers can inform better policy responses to agricultural drivers (see box 5.1).

¹² EFI, *Voluntary Partnership Agreements* (EFI 2007) cited in Rutt, *Social protection in REDD+ initiatives: A Review* (University of Copenhagen 2012) 9 <www.theredddesk.org/sites/default/files/resources/pdf/2012/redd_plus_social_protections_rfgi_working_paper_rebecca_rutt_4_jan_2012.pdf> Accessed 10 February 2014.

¹³ NGOs are however campaigning to include independent monitoring as part of the licensing scheme in developing countries in order to ensure genuine compliance with the Regulation; Brack, Léger, *Exploring credibility gaps in Voluntary Partnership Agreements: A review of independent monitoring initiatives and lessons to learn* (Independent report 2013) <www.fern.org/sites/fern.org/files/IM-VPAsFinalWeb_EN.pdf> Accessed 10 February 2014.

¹⁴ To this end, it has established the EU REDD Facility at the end of 2010, which operates alongside the EU FLEGT Facility within the European Forest Institute; the EU REDD Facility explores interactions between FLEGT and REDD-plus processes at country level and informs the EU international position on REDD-plus.

¹⁵ The full list of countries is available online: 'VPA Countries' (EFI 2009) <www.euflegt.efi.int/vpa-countries> Accessed 10 February 2014.

¹⁶ Bollen, Ozinga, *Improving Forest Governance: A Comparison of FLEGT VPAs and their Impact* (FERN 2013) <www.fern.org/sites/fern.org/files/VPAComparison_internet_0.pdf> Accessed 10 February 2014

Box 5.1 Potential synergies between FLEGT and the REDD-plus policy catalysts

Despite the limited focus on legality in the timber sector, the EU believes that FLEGT will provide valuable lessons for a much broader set of domestic forest policies and that this will in turn greatly benefit REDD-plus implementation. A document published by the EU REDD Facility states that FLEGT and REDD-plus can support each other in six areas: addressing the economic drivers of forest loss, addressing the governance drivers, improving national processes relating to land use governance and management, establishing effective MRV mechanisms, combining national efforts to implement both programmes and changing the nature of consumption of timber and agricultural commodities.¹⁷

In particular, many of the measures advocated by FLEGT confirm that the three policy catalysts discussed in this thesis are indeed of priority importance for REDD-plus policy approaches undertaken in the readiness phase. The document states that measures to harmonise domestic legislation, improve transparency and ensure better law enforcement developed under FLEGT will be clearly beneficial to REDD-plus. Similarly, mechanisms to ensure multi-stakeholder participation and multi-level coordination are beneficial to both programmes, and synergies should be sought in this respect. Moreover, REDD-plus can also aid the implementation of FLEGT by facilitating a fair allocation of land and resources and clarifying rights and responsibilities of different stakeholders operating in and around forests.¹⁸

Given the need to develop effective policies to ensure legality and good forest governance, the contribution of FLEGT to REDD-plus is double. First, by testing approaches in the field, the programme will be able to identify challenges and best practices that are common across the developing world. Second, these very experiences will further highlight the importance of public policies and governance reforms among EU countries and may contribute to creating a positive political environment in developing countries for the enactment of serious reform.

In 2012, Interpol launched a law enforcement programme called Project Leaf (Law Enforcement Assistance for Forests) whose objectives are: “providing an overview and review of ... networks involved in illegal logging, corruption, fraud, laundering and smuggling of wood products; supporting countries in improved enforcement efforts; providing training and operational support; providing insights into the way organized criminals organize their activities; and developing best practices for combating REDD-related and forest-related corruption.”¹⁹ The programme organises

¹⁷ EU REDD Facility, Linking FLEGT and REDD+ (EFI and Proforest 2014) <www.euredd.efi.int/files/attachments/euredd/documents_2014/linking_flegtredd_brief.pdf> Accessed 13 August 2014.

¹⁸ *Ibid* 6-13.

¹⁹ ‘Project Leaf’ (Interpol 2012) <www.interpol.int/es/Crime-areas/Environmental-crime/Projects/Project-Leaf> Accessed 10 February 2014.

training, workshops and high-level meetings for national law enforcement agencies and it supports the establishment of national environmental task forces.²⁰

The slow-changing and complex nature of forest crime makes it crucial that legality initiatives receive predictable political and financial support. REDD-plus could provide operational support (e.g. coordinating the work on readiness and forest law enforcement at the World Bank and FAO, or on governance and corruption at UNDP)²¹ and political support (e.g. mandating participation in existing international forest sector governance programmes or encouraging accession to anti-corruption treaties, where appropriate). Complementing these actions seems a better option for REDD-plus than inaugurating yet another initiative that duplicates their work, as it will be discussed in section 5.2.6.

5.1.2. Tenure, illegality and REDD-plus

A more direct way of tackling illegality under REDD-plus is by promoting ‘stakeholder enforcement’, i.e. involving local actors in forest management. Participation is positively correlated with the quality of decisions as well as their acceptance, hence favouring compliance.²² Stakeholder cooperation is more effective than top-down enforcement of environmental legislation²³ and, perhaps unsurprisingly, countries with high rates of forest crime are also those in which the

²⁰ Interpol, *National Environmental Security Task Force: Bringing Compliance and Enforcement Agencies Together to Maintain Environmental Security* (Interpol 2012); Interpol, Environmental crime: Establishment of national working parties on problems of waste (1996) Res AGN/65/RES/25.

²¹ Readiness funds are being used, and should be further deployed, to support developing countries carrying out governance reforms, yet work in this area is still confused and inorganic, at the same time overly ambitious in scope and underwhelming in impact. Cross-reference with chapter 6.

²² See Pellizzoni, ‘Uncertainty and participatory democracy’ (2003) 12(2) *Environmental Values* 195; Steele, ‘Participation and deliberation in environmental law: exploring a problem-solving approach’ (2001) 21(3) *Oxford Journal of Legal Studies* 415; Schenk, Hunziker, Kienast, ‘Factors influencing the acceptance of nature conservation measures: A qualitative study in Switzerland’ (2007) 83 *Journal of Environmental Management* 66.

²³ Blaser, *Forest law compliance and governance in tropical countries: A region-by-region assessment of the status of forest law compliance and governance in the tropics, and recommendations for improvement* (ITTO/FAO 2010) 9-15; Thorpe, Ogle, *Staying on Track: Tackling Corruption Risks in Climate Change* (UNDP 2011) 24.

rights and responsibilities of stakeholders are not clearly established in the law.²⁴ These rights and responsibilities are defined by tenure.

Tenure indicates a system of rules which “define how property rights to land are to be allocated within societies [and] how access is granted to rights to use, control, and transfer land, as well as associated responsibilities and restraints.”²⁵ This definition also applies to natural resources such as forests,²⁶ although these are disciplined by an *ad hoc* regime²⁷ which “assigns management objectives appropriate for those spaces and subjects them to the authority of specialised administration representing the ‘public interest’”.²⁸ Tenure rights are usually recognised and protected by law (formal or statutory tenure). Alternatively, they can exist *de facto* but not *de jure* (informal or customary tenure), in which case they are extra-legal rather than illegal.²⁹ The ‘bundle’ of property rights associated with tenure is described below.³⁰

The discrepancy between *de jure* and *de facto* tenure rights in developing countries is remarkable. Forests are usually under the domain of the State, which then leases some tenure rights to private entities and local communities.³¹ Globally, about four percent of forests are managed by local and indigenous communities while remaining under public control and 13 percent is given under concession to private

²⁴ See below (n 41).

²⁵ FAO, *Land tenure and rural development* (FAO 2002) 7.

²⁶ *Ibid.*

²⁷ *Ad hoc* treatment is not exclusive to forest resources: another classical example is the retaining of access and use rights by the State on subsoil resources (minerals and hydrocarbons) found below privately owned land.

²⁸ Karsenty, Assembé, ‘Land tenure and implementation of REDD+ in central Africa’ (2011) 2 *Land Tenure Journal* 105, at 116.

²⁹ Although, in legal systems around the world custom may be sufficient to create legal rights, in most developing countries *ad hoc* laws are needed to “make customary land claims equal in weight and validity to documented land claims”; Knight, *Statutory recognition of customary land rights in Africa: An investigation into best practices for lawmaking and implementation* (FAO 2010) vi.

³⁰ An interesting classification differentiates operational-level property rights over natural resources (access and withdrawal) from collective-choice property rights (management, exclusion and alienation); Schlager, Olstrom, ‘Property-Rights Regimes and Natural Resources: A Conceptual Analysis’ (1992) 68(3) *Land Economics* 249, at 250-4.

³¹ Almeida et al, *What Rights? A Comparative Analysis of Developing Countries’ National Legislation on Community and Indigenous Peoples’ Forest Tenure Rights* (RRI 2012) 45.

firms (figure 5.1).³² About 18 percent of tropical forests are actually owned by local and indigenous communities (although in Africa the percentage is close to zero). Even in such cases, private forest owners have their tenure rights restricted by regulation (e.g. through the requirement of forest management plans, see box 5.2).

However, data on forest tenure distribution in 27 developing countries shows a marked shift in tenure allocation over the decade 2002-2012: direct administration by the State fell from 72 to 60 percent, while forests owned by communities rose from 18 to 25 percent and those designated for their use doubled to six percent.³³ This shift is part of a trend towards decentralisation that has characterised the attempt over the past two decades to achieve a more efficient and effective forest management.³⁴

Table 3: Bundle of tenure rights over land and natural resources

Right	Definition	Description
Access	The right to enter or pass through a particular space	The most basic tenure right
Exclusion	The right to exclude others from the land or forest	Relies on the right-holder's ability to enforce the right directly or through a legitimate authority
Use or withdrawal	The right to use and obtain products from the land or forest	Regulated by the owner or proprietor
Management	The choice of who will have an access right and the restrictions on the use of land or forest	Operated by the claimant but set in conjunction with the owner/proprietor
Alienation	The right to transfer access and management rights to another entity underpins land markets	Customary rights to the land or forest are normally inalienable.

³² *Ibid* 21.

³³ *Ibid* 12.

³⁴ Pfaff et al, *Policy Impacts on Deforestation: Lessons Learned from Past Experiences to Inform New Initiatives* (Duke University 2010) 28; Cotula, Myers, *Tenure in REDD: Start-point or afterthought?* (IIED 2009) 19.

The vast majority of the world's forests are still under the direct administration of national governments³⁵ and observers fear that REDD-plus payments could trigger a wave of tenure recentralisation.³⁶ State tenure extends to 65 percent of forestlands, ranging from just 33 percent in Latin America to 98 percent in Africa. Yet across the developing world less than 30 percent of the territory is covered by land titles.³⁷ Presumption of State tenure dominates despite ample evidence that traditional or migrant communities usually live in forests declared by default under State tenure. The situation is not unique to forests: as Palmer et al note “the lack of legal recognition of land rights has led to a perception that some countries have abundant land which can be used for large scale agricultural investments, but in reality there is little land that is not already being used or claimed.”³⁸

The misalignment of formal and customary tenure systems provides breeding ground for illegality. It creates problems of political legitimacy, legal uncertainty, discrimination and abuse.³⁹ If tenure rights are not clarified, no-one has responsibility to protect forests and open access dynamics encourage illegal forest encroachment. In areas where substantial profit can accrue from forest exploitation, encroachment is driven by migrants or organised criminals. This may cause tensions and conflict with local communities and indigenous peoples. Further conflicts can accrue between local stakeholders and corporations (e.g. over concession boundaries), between indigenous communities and the State (e.g. for the establishment of protected areas or building of infrastructures).⁴⁰ In such cases, the

³⁵ Sunderlin, Hatcher, Liddle, *From Exclusion to Ownership? Challenges and Opportunities in Advancing Forest Tenure Reform* (RRI 2008) 7-10; White, Martin, *Who owns the world's forests?: Forest tenure and public forests in transition* (Forest Trends 2002) 5; Hatcher, Bailey, *Tropical Forest Tenure Assessment: Trends, Challenges and Opportunities* (RRI 2009) 18.

³⁶ Phelps, Webb, Agrawal, ‘Does REDD+ Threaten to Recentralize Forest Governance?’ (2010) 328 *Science* 312, at 312.

³⁷ Augustinus, Deininger, ‘Land Rights for African Development: From Knowledge to Action’, Workshop Innovations in Land Tenure, Reform and Administration in Africa cited in Karsenty, Ongolo, ‘Can “fragile states” decide to reduce their deforestation? The inappropriate use of the theory of incentives with respect to the REDD mechanism’ (2012) 18 *FORPOL* 40.

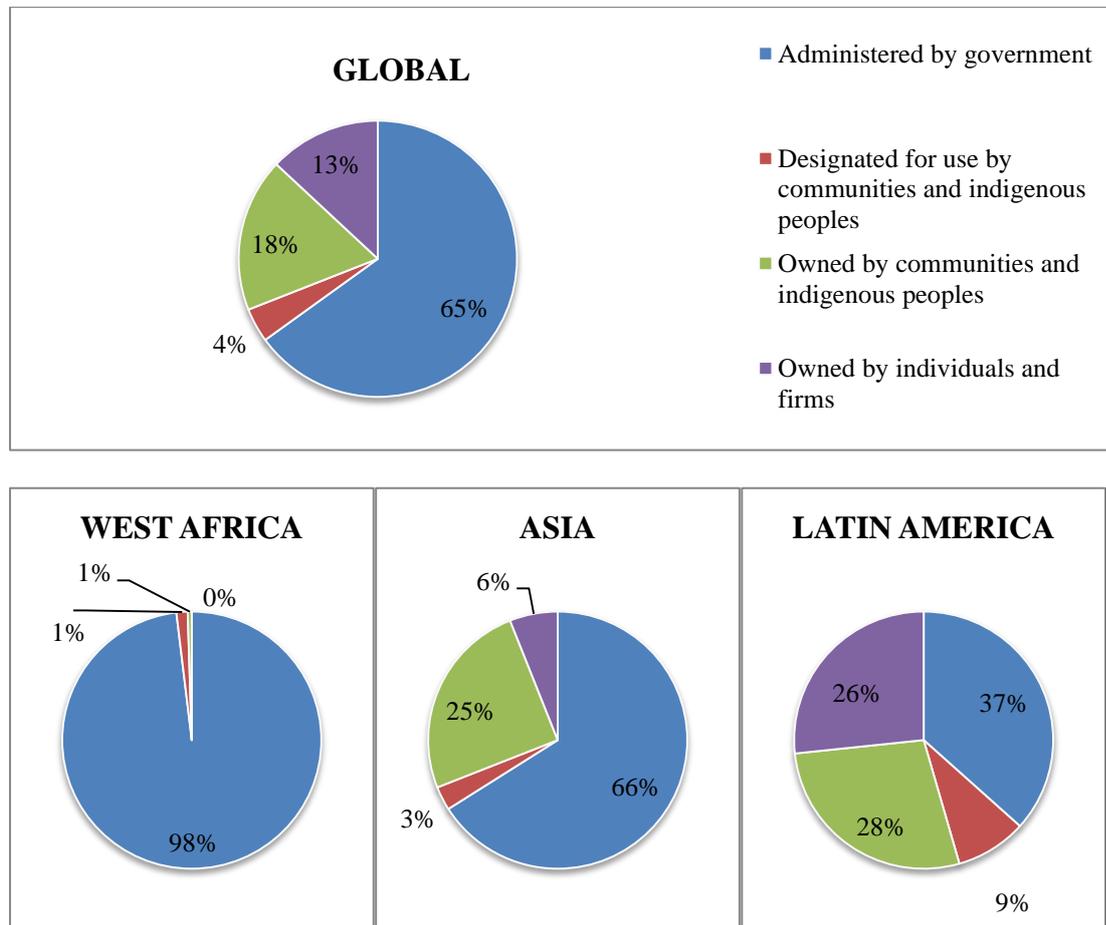
³⁸ Palmer, Friccka, Wehrmann, *Towards improved land governance* (UN-HABITAT 2011) 24.

³⁹ Knight (n 29) 3-8.

⁴⁰ See Brechin et al, *Contested Nature: Promoting International Biodiversity and Social Justice in the 21st Century* (State University of New York Press 2003), particularly chapters 2 and 4; Brockington, Igoe, Schmidt-Soltau, ‘Conservation, human rights and poverty reduction’ (2006) 20 (1) *Conservation Biology* 250.

demarcation and regularisation of tenure rights will have the advantage of unearthing underlying incongruences between *de jure* and *de facto* situations before the development plans are laid out (i.e. the State awards concessions, establishes protected areas or plans infrastructure building).

Fig. 1: Tropical forest tenure in 2008 (Global and Regional)⁴¹



Forest people with insecure tenure rights have no incentive to manage timber resources sustainably and, deprived of critical livelihood resources, tend to adopt a ‘catch-while-catch-can’ behaviour.⁴² Tenure insecurity is connected with unsustainable, often illegal, small-scale logging and fuelwood collection in much of

⁴¹ Includes thirty countries accounting for 85 percent of the world's tropical forests; Africa: Angola, Cameroon, CAR, Congo, DRC, Gabon, Sudan and Tanzania (67 percent of African forests); Asia: Australia, China, Japan, India, Indonesia, Myanmar and PNG (78 percent of Asian forests); Latin America: Bolivia, Brazil, Colombia and Venezuela (78 percent of Latin America forests). Adapted from: Sunderlin et al (n 35).

⁴² Knox et al. (n 3) 27.

the developing world.⁴³ In States with weak law enforcement, privatising a public good may be a valid strategy to govern the commons. Empowered users tend to exercise custodianship over their property⁴⁴ and the ability to secure livelihoods by using local resources is perhaps the strongest incentive for sustainability.⁴⁵ For instance, in Honduras and Mexico communities with secure tenure rights self-organised to oppose illegal loggers and expelled them without any support from the government.⁴⁶ Locals may also have an interest to protect neighbouring areas outside their forest domain from illegal activities. For example, in the heavily logged mountain forests of North-West Ecuador, local communities protect vegetation under State domain to maintain the provision of freshwater, soil stability and precipitation.⁴⁷

If REDD-plus puts a monetary value on forests, more competing tenure claims are likely to be filed and conflicts would increase.⁴⁸ A highly unequal distribution of land coupled with high demand by the landless poor generates an explosive mix for social stability and environmental sustainability because it creates the conditions for occupations and conflict in or around areas under protection. This is clear in the experience of countries such as Brazil, where the concentration of land in few wealthy hands ignites continuous conflicts and illegality.⁴⁹ That the equitable

⁴³ Banana, Gombya-Ssembajjwe, 'Successful Forest Management: The Importance of Security of Tenure and Rule Enforcement in Ugandan Forests' in Gibson, MacKean, Ostrom, *People and Forests: Communities, Institutions and Governance* (MIT Press 2000) 87; McElwee, 'You Say Illegal, I Say Legal: The Relationship Between 'Illegal' Logging and Land Tenure, Poverty, and Forest Use Rights in Vietnam' (2004) 19(1-3) *J. of Sust. For.* 97; Finley-Brook, 'Indigenous Land Tenure Insecurity Fosters Illegal Logging in Nicaragua' (2007) 9(4) *Int'l For Rev.* 850.

⁴⁴ Wily, *Can we really own the forest? A critical examination of tenure development in community forestry in Africa* (IASCP 2004) cited in Doherty, Schroeder, 'Forest Tenure and Multi-level Governance in Avoiding Deforestation under REDD+' (2011) 11(4) *Global Environmental Politics* 75.

⁴⁵ Ostrom, 'Coping with Tragedy of the Commons' (1999) 2 *Annual Rev. of Pol. Sc.* 493, at 506-519.

⁴⁶ Kaimowitz, 'Forest Law Enforcement and Rural Livelihoods' (2003) 5(3) *Int. For. Review* 199, at 208.

⁴⁷ Some of these forests have been included in a national registry of 'Protective forests' ('Bosques Protectores'), based on the following legislation: Regulación 265, 11 Septiembre 2007 (Ecuador); Regulación 128, 18 Octubre 2006 (Ecuador) <<http://web.ambiente.gob.ec/?q=node/27>> Accessed 10 February 2014.

⁴⁸ Mitchell, Zevenbergen, 'Toward Administration Systems to Support Climate Change Mitigation projects' (2011) *Land Tenure Journal* 57, at 60.

⁴⁹ Reydon, 'The agrarian issue in Brazil requires land governance' (2011) 1 *Land Tenure Journal*.

distribution of tenure rights is essential to achieve poverty reduction and sustainability⁵⁰ is further corroborated by history: redistributions of tenure rights in the past were sparked by massive inequality in tenure distribution (such as the Communist revolutions of Russia 1917, China 1949 and Cuba 1959), but also more ‘moderate’ land reforms in recent times were normally inspired by similar principles (as the various failed attempts of land reform in Brazil attest).⁵¹ Tensions are already characterising the REDD-plus debate. Indigenous people and peasant organisations are vigorously opposing the programme for fears that it would cause mass evictions from forestlands whose tenure rights have not yet been secured.⁵²

Without tenure security, moreover, carbon markets cannot operate.⁵³ If respective rights to use resources are not clarified beforehand, problems arise when deciding on programme participation and on the distribution of incentives. Take, for example, the case of the soya industry in Brazil discussed earlier which, moving out of the Amazon and into the Cerrado, has displaced ranching back to the forest with overall little environmental benefit.⁵⁴ In this case, who should be the beneficiary of REDD-plus incentives? Should cattle ranchers be compensated for directing their activities to non-forested areas? What if, in doing so, they displace other activities such as, for example, subsistence farming? What would prevent these actors from colonising the Amazon, further causing ‘leakage’ of emissions? At the most basic level, REDD-plus demands the clear identification of a provider of the environmental service (carbon sequestration and storage) with legally recognised tenure over the resource, and the demarcation of boundaries within which the provider bears rights and responsibilities.⁵⁵ For REDD-plus activities, land demarcation determines the boundaries within which emission reductions can be calculated and performance measured against a project or jurisdictional reference level.

⁵⁰ Palmer et al (n 38) 30; Deininger et al, *Innovation in Land Rights Recognition, Administration, and Governance* (World Bank 2010) 1-5.

⁵¹ See Mueller, Mueller, *The Evolution of Agriculture and Land Reform in Brazil, 1960 – 2006* (University of Illinois 2006) 19.

⁵² Knox et al (n 3) 33.

⁵³ Mitchell and Zevenbergen (n 48) 64.

⁵⁴ See chapter 2 box 2.1.

⁵⁵ Mitchell and Zevenbergen (n 48) 65-6.

Besides demarcation and mapping, the identification of rightful counterparts to any REDD-plus agreement (i.e. those entitled to compensation are those whose rights are being restricted) is highly problematic and uncertain tenure rights may at any point affect the validity of a carbon contract.⁵⁶ One might assume that the right to profit from carbon sequestration would accrue to the landowner,⁵⁷ but what matters for the provision of the environmental service is who has what rights to use/manage the forests rather than who maintains ownership over the land.⁵⁸ Thus, in order to increase accountability, compensation should be paid to the actual forest users,⁵⁹ though a rent for the owner could be factored in.⁶⁰ In some cases, governments may be willing to co-manage forests, sharing the benefits and responsibilities of providing REDD-plus services with local stakeholders.⁶¹

Regularisation should thus start from land and forest tenure and end with carbon rights, which are nested within them.⁶² In countries where the State owns all trees, even those within private lands (such as Cameroon), the right to use/manage the canopy to one's profit could still be granted to the landowner, hence allowing carbon payments to private entities. But it is equally possible that, where public ownership of forest resources is the norm, carbon is declared a publicly-owned commodity, meaning that the government would have exclusive rights over it including the power to sell carbon credits. Some States may decide that carbon is inseparable from the physical resource that retains it, in which case its sale or lease could not happen without a formal transfer of title over the land or forest and no further regulation would be required. This would make it virtually impossible to establish a large-scale offsets market without large-scale land acquisitions. Another possibility is that carbon is separated from tree tenure and considered a public good upon which no

⁵⁶ Angelsen et al, *Realising REDD+: National strategy and policy options* (CIFOR 2009) 135; Grieg-Gran, Porras, Wunder, 'How can market mechanisms for forest environmental services help the poor? Preliminary lessons from Latin America' (2005) 33(9) *World Development* 1513-4; Mitchell and Zevenbergen (n 48) 62; Knox et al (n 3) 25.

⁵⁷ Knox et al (n 3) 22.

⁵⁸ Karsenty and Assembé (n 28) 121-2.

⁵⁹ *Ibid* 122.

⁶⁰ Knox et al (n 3) 40.

⁶¹ *Ibid* 45.

⁶² *Ibid* 37.

private right can be exercised; this would make it impossible to trade offsets, but developing countries could still claim results-based payments for preserving the public good.⁶³

Finally, tenure security should also be promoted at the forest-agricultural frontier so as to address the drivers of deforestation. Tenure security justifies upfront investments in agricultural productivity and soil conservation measures because farmers have a reasonable expectation of enjoying returns over the long-term, and it allows credit to be obtained using land as collateral.⁶⁴ This dynamic underpins agricultural intensification in non-forested areas and, by increasing the total yield (agricultural output), it reduces global commodity prices, land prices and pressure on forests. Locally, however, productivity gains may increase land prices and stimulate agricultural expansion into forests: a number of contextual factors determine the impact of increased agricultural output on deforestation (such as distance from the forest frontier, geographic and topographic conditions, availability of infrastructures, mechanisation, scale and type of agriculture) and must influence local agricultural strategies.⁶⁵

If the lack of incentives to invest in sustainability and productivity (e.g. soil conservation measures) leads to environmental degradation and food insecurity, rural populations may become more prone to internal migration. In the past, the promise of secure tenure rights in unoccupied forest lands was the ‘pull factor’ of migration, and the consequent population boom in tropical forest frontiers.⁶⁶ In some cases, the colonisation of rainforests was actively planned by governments to alleviate pressures from the landless poor: for instance, land reforms in Latin America and

⁶³ For an in-depth analysis see Hepburn, ‘Carbon Rights as New Property: The benefits of statutory verification (2009) 31 Sydney Law Review 239; Baker & McKenzie/Buddle Findlay, *Mechanisms for Recognising Rights to Carbon Sequestered by Land-based Activities in New Zealand* (Baker’s & McKenzie 2008) <<http://maxa.maf.govt.nz/climatechange/reports/mechanisms-for-recognising-rights/mechanisms-for-recognising-rights.pdf>> Accessed 10 February 2014; Takacs, *Forest Carbon: Law and property rights* (CI 2009); The Carbon Group/UN-REDD, *Background Analysis of REDD Regulatory Frameworks* (TCG/UN-REDD 2009); Costenbader (ed), *Legal frameworks for REDD: Design and Implementation at the national level* (IUCN 2009).

⁶⁴ Ayalew Ali, Deininger, Goldstein, *Environmental and Gender Impacts of Land Tenure Regularization in Africa Pilot evidence from Rwanda* (World Bank 2011) 5.

⁶⁵ See, for instance: Maertens, Zellerb, Birnerc, ‘Sustainable agricultural intensification in forest frontier areas’ (2006) 34 *Agricultural Economics* 197.

⁶⁶ Pfaff et al (n 34) 36-8.

South East Asia gave tenure rights to migrants provided that they put the claimed land to ‘productive use’, conventionally meaning that they had to deforest a good part of it for agricultural or other purposes (see box 5.2).

Box 5.2: Agrarian reform, environmental regulations and tenure in Brazil

Brazil’s history of unequal tenure distribution, made famous by the Landless’ Workers Movement, has its roots in the colonial times. After the dictatorship, the agrarian reform (1964 Land Statute) allocated rights over unclaimed ‘idle’ lands to anyone who had lived on them and had put them to productive use. These lands were mainly located in the Amazon, where productive use was demonstrated by clearing the vegetation to start an agro-pastoral activity. Between 1985 and 2006, over 900,000 families were settled in an area of over 80 million hectares, yet the concentration of land has hardly changed and Brazil still has one of the highest inequality indexes in the world.⁶⁷

Soaring deforestation rates forced the government to progressively enact a number of laws and regulations dedicated to environmental protection. At the end of this process, in 2003, 41 percent of the Amazon was under some form of protection (half of which are indigenous lands), 35 percent was private property (registered or informal), and 24 percent was still public land without land use destination.⁶⁸ In each of these categories various forest tenure situations are disciplined by several environmental regulations. On privately owned lands, the Forest Code requires owners to prepare a forest management plan which ensures the protection of 80 percent of forests on such lands (the ‘legal reserve’).⁶⁹ Brazil also recognises a number of tenure regimes for local and indigenous communities, each subject to specific conservation requirements: extractive reserves, sustainable development reserves, national forests, agro-extractive settlement projects, forest settlement projects, sustainable development projects, ‘Quilombola’ communities and indigenous lands.⁷⁰ However, many protected areas are informally occupied while much of the privately-owned land was registered through a fraudulent process,⁷¹ facilitated by the absence of a cadastre for private lands and of a land registry for public lands.⁷² Tenure uncertainty in the Amazon region has long thwarted efforts to implement and enforce environmental legislation. In recent years the strengthening of environmental monitoring and enforcement capacity, alongside continued efforts to clarify tenure rights, reduced average deforestation rates in Brazil, but it is still too early to determine whether this trend will continue.⁷³

⁶⁷ Reydon (n 49) 132.

⁶⁸ *Ibid* 133-4.

⁶⁹ The provision was stipulated in the law as early as 1965 (Lei no. 4771), and then reinforced in 1986 (Lei no. 7511), but it was not implemented until 2006 (lei no. 11.284/2006); Cotula and Myers (n 34) 28.

⁷⁰ Almeida et al (n 31) 60-1.

⁷¹ Reydon (n 49) 134.

⁷² *Ibid* 131.

⁷³ On the development and impact of environmental regulation in Brazil see Hiraçuri, *Can the Law Save the Forest? Lessons from Finland and Brazil* (CIFOR 2003).

Land conflicts at the forest margins may have large-scale consequences on deforestation, e.g. when a situation of land scarcity is caused by internal factors (such as demographic increase), external human factors (such as migration or large-scale land acquisitions), or climatic factors (such as prolonged droughts). Productivity gains are needed to face pressing demands for agricultural products, but such increases may be prevented by tenure insecurity. Competition generates scarcity and stress that in some cases may escalate into conflicts; conflicts worsen environmental degradation which in turn causes even greater scarcity of productive land in a vicious circle.⁷⁴ When conflicts become violent they may cause the displacement of large numbers of people deep into the forest (as in the case of the 1998 second Congo War, also known as the First African War). Violent conflicts over tenure rights also arise where actors wrestle over control of natural resources. Unfortunately, the literature has no shortage of examples of this kind of conflict. A UNEP analysis of intra-state conflicts found that over the past 60 years 40 percent of them were associated with natural resources, and that this type of conflict is twice as likely to reignite shortly after a peace agreement is found.⁷⁵

5.2. Domestic measures to secure tenure

This section identifies six public sector measures to secure land and forest tenure in developing nations. Although their presentation implies a stepwise approach, it should be interpreted as a checklist for the elements that must be in place to achieve tenure security rather than a chronological sequence.

5.2.1. Review and complete the regulatory framework

The starting point for tenure reform is reviewing existing legislation to fill legal gaps, harmonise fragmented laws and regulations and address conflicts between customary and statutory norms. An obvious gap in the legislation would be that dealing with carbon rights, which will be discussed in the next section. Other tenure

⁷⁴ Palmer et al. (n 38) 49.

⁷⁵ UNEP, *From Conflict to Peace-building: The Role of Natural Resources and the Environment* (UNEP 2009) 8.

laws and regulations must be reviewed and harmonised too. Most tropical forest countries have legal duality “where ‘modern’ land legislation allows only for public or private ownership, without room for local tenure arrangements, whether customary or hybrid”.⁷⁶ Customary systems in fact contemplate tenure relationships in which forests are considered common-pool resources subjected to simultaneous uses (e.g. passage, grazing, cultivation, management and withdrawal of forest resources) or in which tenure rights are collectively assigned to community members and cannot be transferred.

These forms of tenure are often not recognised in the law. Although Almeida et al found that 25 of the 27 developing countries considered give some legal recognition to indigenous and community tenure rights,⁷⁷ less than one-third of the tenure regimes surveyed fully comply with such instruments, especially with regards to management and exclusion rights.⁷⁸ A review of six national tenure systems by Larsson et al gives a slightly different picture.⁷⁹ In Indonesia and Vietnam customary rights are not recognised, in Cameroon they are limited to use rights, in Tanzania customary rights are granted only in very small areas, while in Peru they are only recognised after a long and costly regularisation process. Only Brazil is found to give sufficient recognition to informal tenure arrangements.

Problems remain even when the law recognises customary tenure.⁸⁰ For instance, in 35 percent of tenure regimes analysed in Africa, Almeida et al found that ‘rights cannot be implemented due to a lack of supplementing regulations that clearly define the recognised rights and the process by which such rights may be allocated in practice’.⁸¹

Another common problem is that tenure is affected by laws and regulations from various sectors (forest, agriculture, environment and so forth) whose provisions are

⁷⁶ Karsenty and Ongolo (n 37) 40.

⁷⁷ Almeida et al (n 31) 45-8.

⁷⁸ *Ibid* 47-50.

⁷⁹ Larson, Brockhaus, Sunderlin, ‘Tenure matters in REDD+: Lessons from the field’ in Angelsen et al, *Analysing REDD+: Challenges and choices* (CIFOR 2012) 160.

⁸⁰ Almeida et al (n 28) 45-8; also see Larson, *Forests for People: Community Rights and Forest Tenure Reform* (Earthscan 2010).

⁸¹ Almeida et al (n 31) 47

not always co-ordinated, creating legal uncertainty and inconsistent interpretations. In every legal framework there is a measure of inconsistency between provisions contained in different instruments; these are generally dealt with using the legal principles of *lex posterior derogat legi priori* (a later law repeals a previous one) and *lex superior derogat legi inferiori* (a law higher in the hierarchy repeals the lower one). However, the situation in developing countries may be too confused to clearly identify which provision prevails, and court challenges would likely be too frequent to ensure the stability and effectiveness of the legislation.

The reconciliation of the various pieces of legislation addressing land and forest tenure demands a substantial regulatory effort,⁸² yet as Rwanda's tenure regularisation process proves,⁸³ establishing clear rules and setting precedents for the determination of which provisions prevail is not enough: full legal certainty will require the intervention of the legislator to either abrogate some provisions or to provide authoritative interpretations that reconcile them with other relevant laws. For example, Karsenty and Assembé underline the importance of reviewing the notion of the 'productive use' of land so as to encompass recently introduced environmental goals such as carbon sequestration and storage and biodiversity conservation.⁸⁴

Doherty and Schneider challenge the assumption that the harmonisation of statutory and customary tenure systems will lead to tenure security because, they argue, the latter are extremely diverse and specific to each local community and therefore cannot be harmonised with State law, especially is predicated on market notions.⁸⁵ Moreover, the superimposition of statutory rights would mean very little to local communities, particularly where customary tenure arrangements are seen as having

⁸² Karsenty and Assembé (n 28) 125.

⁸³ In its successful effort to regularise land tenure, the Government of Rwanda amended several laws and enacted new laws and over twenty policies between 1999 and 2008. The most influential instruments for tenure reform were: the Rwandan Constitution of 2003, the National Land Policy of 2004 and the Organic Land Law of 2005. Daley, Dore-Weeksb, Umuhozac, 'Ahead of the game: land tenure reform in Rwanda and the process of securing women's land rights' (2010) 4(1) J. of East. African Studies 131-52; Rurangwa, *Land Tenure Reform: The Case Study of Rwanda* (Conference on 'Land Divided: Land and South African Society in 2013, University of Cape Town, March 2013) <www.landdivided2013.org.za/sites/default/files/rurangwa%20Land%20Tenure%20Reform_Rwanda%20Case.pdf> Accessed 10 February 2014.

⁸⁴ Karsenty and Assembé (n 28) 123.

⁸⁵ Doherty and Schroeder (n 44) 81.

more legitimacy.⁸⁶ These critiques are sound. Harmonising customary and statutory tenure should be intended as a process by which statutes recognise and legitimise custom rather than customary tenure systems being changed to fit within Western-style concepts of property law.

Finally, Knox et al note that “the clarity and precision of the rights required by carbon finance may not align with the fluid and overlapping nature of customary tenure systems.”⁸⁷ *Ad hoc* legislation would remove these doubts, reassuring investors that REDD-plus contracts will not be invalidated by subsequent legislative developments on forest or carbon tenure.⁸⁸ States have to establish a tenure regime for carbon so as to clarify who can exercise what rights, and under what conditions; in particular, the relation between the tenure of carbon, forests and land must be disciplined in detail in order to generate confidence in a compliance carbon market.⁸⁹ Clarity must also be established as to how the existing use and management rights of communities are affected by their participation in a REDD-plus project or programme, since very often the right to alter existing forest use and management conditions belongs to the government.

5.2.2. Review duration, withdrawal and restriction of rights

Not all tenure rights are permanent. As seen earlier, quite often tenure rights are only leased by the State. States that retain ownership of their forests must ensure that concessions, licences and leases of such rights have sufficient duration which must take into account economic, social and cultural aspects. The duration of leased

⁸⁶ *Ibid* 78.

⁸⁷ Knox et al (n 3) 23; Clover, Eriksen, ‘The effects of land tenure change on sustainability: human security and environmental change in southern African savannas’ (2009) 12 *Environmental Science & Policy* 53. On this issue see also FAO, *Understanding forest tenure in South and Southeast Asia* (FAO 2009); Hatcher, *Securing Tenure Rights and Reducing Emissions from Deforestation and Degradation (REDD): Costs and Lessons Learned* (World Bank 2008) <http://www.rightsandresources.org/documents/files/doc_1474.pdf> Accessed 14 February 2014; W.F. Hyde, B. Belcher, J. Xu (eds.), *China’s forests: global lessons and market Reforms* (RFF/CIFOR 2003); Pfaff et al (n 34) 36; Bray, Negreros, Merino-Perez, Torres Rojo, Segura, Vester, ‘Mexico’s Community managed Forests as a Global Model for Sustainable Forestry’ (2003) 17(3) *Conservation Biology* 672; Bray, Klepeis, ‘Deforestation, forest transitions, and institutions for sustainability in South-eastern Mexico, 1900-2000’ (2005) 11 *Environment and History* 195.

⁸⁸ Takacs (n 63) 61-3.

⁸⁹ *Ibid*; Cotula and Myers (n 34) 14; Kennett, Kwasnaik, Lucas, ‘Property rights and the legal framework for carbon sequestration on agricultural land’ (2005) 37 *Ottawa Law Review* 171 at 176.

access, use and management rights is crucial to security. Unduly short tenure rights are detrimental to sustainability because they discourage long-term investments that would improve the site's condition and the sustainability of production, because these are bound to generate returns over long time-frames.⁹⁰

The duration of the leased rights depends on two factors. The first is the land-use destination of the leased area. In contexts where considerable initial investments are needed, such as farmlands at the forest frontier suitable for intensification, even 99-year leases may be insufficient for banking purposes (i.e. as collateral security) and governments should consider according freehold rights to farmers. By contrast, on forestlands destined to timber and non-timber managements shorter leases may be sufficient. The second factor to be considered is the condition of the beneficiary, whether it is a large-scale or small-scale commercial enterprise or indeed a local stakeholder operating on a subsistence basis. In the latter case, tenure security should be framed in inter-generational terms while for commercial operations short-term leases may be more appropriate.

When there is no pre-set time limit, tenure rights granted by the State may still be vulnerable to withdrawal. As noted by Larson, “in all cases the central issue regarding tenure security is whether the new rights can be withdrawn, and (if so) how and under what circumstances.”⁹¹ Property titles tend to be the most secure, whereas rights granted through, e.g., decrees, regulations and contracts are generally quite vulnerable to be overturned unilaterally.⁹² In Nicaragua, a plan to decentralise forest management was reversed simply with a change of government personnel.⁹³ Households and communities that rely on forests for their livelihood would not be incentivised to settle in, and sustainably manage areas upon which they have tenure rights that can be arbitrarily withdrawn.

⁹⁰ Knox et al (n 3) 29.

⁹¹ Larson, ‘Forest tenure reform in the age of climate change: Lessons for REDD+’ (2011) 21 GEC 540, at 544.

⁹² *Ibid.*

⁹³ Larson, ‘Democratic Decentralisation in the Forestry Sector: lessons Learned from Africa, Asia and Latin America’ in: Pierce Colfer, Capistrano (eds.), *The Politics of Decentralization: Forests, People and Power* (Earthscan 2005) 39.

Finally, breach of environmental guidelines for forest management should constitute ground for the withdrawal of such rights. Clearly, forest management restrictions should not prevent the right-holder from enjoying tenure rights or undermine effective local management institutions.⁹⁴ In particular, local stakeholders must be granted management rights that allow them to carry out the subsistence and commercial activities necessary to sustain and increase their living standards. This includes the removal of geographical limitations which reduce the areas available to sustain local livelihoods, as in the case of Tanzania mentioned earlier. As the example of post-colonial forest policy in India demonstrates, excessive limitations to community tenure rights lead to poverty and crime.⁹⁵

5.2.3. Build human and technical capacity to clarify and demarcate titles

Larsson notes that, alongside problems of corruption and government capture, tenure regularisation is hampered by limited technical, human and financial capacity which cause “delays in implementation [of tenure reforms] or the failure of the state to demarcate territories accurately, fairly or in a timely fashion”.⁹⁶ The State often has insufficient personnel to verify tenure rights in the field, monitor abuses or provide protection; or the available staff may be badly trained, underpaid and susceptible to corruption.⁹⁷ It is thus recommended that a new breed of tenure experts be trained by, *inter alia*, increasing the budget of the relevant departments, forging links with Universities and other research institutions, and establishing bilateral and multilateral channels for information sharing (especially South-South). These experts should not be bureaucrats but mediators able to work with local stakeholders to achieve bottom-up tenure mapping. Experience in Indonesia demonstrates that clarifying customary tenure rights is also a complex and politically sensitive endeavour.⁹⁸ Rather than producing a rigid set of prescriptions, experts should support a flexible and adaptive

⁹⁴ Larson, Berry, Ram Dahal, ‘New rights for forest-based communities?: Understanding processes of forest tenure reform’ (2010)12(1) *International Forestry Review* 78, at 84.

⁹⁵ Saxena, *The Saga of Participatory Forest Management in India* (CIFOR 1997) 1-22.

⁹⁶ Larson (n 91) 546.

⁹⁷ Cotula and Myers (n 34) 34.

⁹⁸ Sayer et al, *Local rights and tenure for forests: opportunity or threat for conservation?*, *Rights and Resources Initiative* (RRI 2008) 11.

process based on continuous review and analysis of policy, legal and organisational frameworks.⁹⁹ More emphasis should be placed on setting up organisational frameworks and capacity that allow the continued gathering of data and the constructive participation of stakeholders.

Secondly, governments may not have access to updated aerial or satellite images; they may lack the capacity to deploy modern information technologies at the local level to speed up land registration processes. A strong multi-disciplinary analysis, baseline studies and cross-country learning must be undertaken to generate understanding of tenure problems, their causes and the expected impacts of the proposed changes.¹⁰⁰ Mapping exercises must be carried out with the active involvement of stakeholders. Greater investments in natural surveys and socio-environmental inventories could complement carbon-stock measurements with other information, both biophysical (e.g. biodiversity value, watershed functions etc.) and social (e.g. existing settlements, sprawl of activities and location of development). Satellite techniques, geographic information systems, surveys and social assessments could be carried out at various scales and integrated in regional maps.

A focal point for bridging the technical gap is modernising the land registry and the cadastre¹⁰¹ so as to establish a uniform and transparent process for the registration of tenure rights that can be used as evidence against competing claimants.¹⁰² These systems are meant to ‘provide accessible information on tenure rights and duties in order to increase tenure securities and to reduce the costs and risks of transactions’;¹⁰³ they activate legal protection for right holders and allow the collection of rural taxes; they help to decide the most appropriate land use destination, facilitating the spatial planning processes and the establishment of

⁹⁹ FAO, *Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security* (FAO 2012) paragraph 5.7.

¹⁰⁰ Palmer et al (n 38) 22.

¹⁰¹ The cadastre is a geographically explicit information of land area which indicates its use destination, value and tenure information, and it is used by a public authorities. The land registry too records the characteristics of a land (particularly its boundaries) and a clear definition of the tenure rights exercised over it, but it does not usually contain information over land use destination and valuation; it is used in court. Larsson, *Land registration and cadastral systems: Tools for land information and management* (Longman 1991) 15-7

¹⁰² Mitchell and Zevenbergen (n 48) 72.

¹⁰³ FAO (n 99) paragraph 11.5.

restrictions on forest use; they certify that providers of environmental services have legitimate rights and that emission reductions are additional (e.g. by showing that payments are not directed to areas already under protection).¹⁰⁴ A sound land registry or cadastre can limit informal tenure arising from large-scale migrations and it can provide more certainty and transparency to land markets, thereby contrasting land speculation, land concentration and abuse of customary rights.¹⁰⁵

Land registries and cadastres are developed using large-scale images (aerial photographs, satellite images or topographic maps) and supported by field verification, and they must be frequently updated. Developing countries have out-of-date and incomplete land registries and cadastres and woefully inadequate systems to register information. This adds to the time and cost of tenure regularisation.¹⁰⁶ Because large scale tenure legalisation is a lengthy exercise (sometimes lasting decades),¹⁰⁷ speed is important to create legal certainty and to ensure that right holders do not lose the incentive to complete the process. If land transactions occur before the registration is complete, the land registry or cadastre will be outdated before its completion.¹⁰⁸ Modernising these instruments is thus crucial to the effectiveness, efficiency and expediency of tenure reform as well as, indirectly, of spatial planning. Frequent access to up-to-date aerial or satellite images is important to the accuracy of tenure information.¹⁰⁹ The use of electronic systems for storing tenure data abates costs and increases speed, it makes updating tenure records simpler and can safeguard the information more securely. The digitisation of tenure data also facilitates coordination among different registries, which is important to prevent registration of competing land claims.¹¹⁰ The digitisation of cadastral information should be extended from the centre to the rural periphery; until this

¹⁰⁴ Reydon (n 49) 144.

¹⁰⁵ FAO (n 99) paragraphs 11.2-11.4.

¹⁰⁶ Palmer et al (n 38) 31.

¹⁰⁷ *Ibid* 35.

¹⁰⁸ *Ibid*.

¹⁰⁹ Brazil, where satellite imagery has been used to monitor deforestation since the 1980s, is often cited as a role model for other developing countries; Fuller, 'Tropical forest monitoring and remote sensing: A new era of transparency in forest governance?' (2006) 27(1) Singapore J. of Tropical Geography 15, at 16-7 and 25.

¹¹⁰ FAO (n 99) paragraph 17.1.

happens, special provisions should be made to coordinate digital and non-digital information.

5.2.4. Simplify the regularisation process

Securing tenure rights starts with the documentation of their nature and extent, the demarcation of boundaries within which they apply and their registration by the authorities.¹¹¹ A major problem is that even if customary rights are legally recognised, stakeholders are often unaware of such rights, they may not understand the importance of registering or validating land titles, or they may lack sufficient information about how to do so. Box 5.2 provides a snapshot of such problems. It is thus crucial that governments actively disseminate information, making it accessible and understandable for interested communities.¹¹²

Local and indigenous communities are often excluded from tenure legalisation by “costly land delimitation processes; the undue requirements for communities to acquire legal status; the complex legalese of applications and other documentation; the need to provide evidence of the traditional use of forest land; and the short timeframe during which communities must comply with the complicated procedures established by law.”¹¹³ Simplification should also reduce costs. It is important that any saving from reduced bureaucracy is passed on to the citizens in order to allow the most disadvantaged groups to undertake the process. The positive experience with Rwanda’s Land Tenure Regularisation programme shows that, with simplified procedures and a coherent legal and institutional framework, large-scale tenure regularisation is feasible at relatively low costs. In some cases, *pro bono* support should be provided to local communities, particularly those who are not integrated in the market economy.

Problems dealing with dual tenure systems spurred the development of alternative registration techniques that reduce costs, increase speed and simplify the bureaucratic procedure to the advantage of prospective right-holders. Registries must

¹¹¹ Knox et al (n 3) 40.

¹¹² *Ibid.*

¹¹³ Almeida et al (n 31) 47.

allow for the recording of tenure rights at the community level and for less demanding formalisation processes (such as validation and certification) that can be subsequently updated through standard registration. Reydon and Costa discuss the case of the Brazilian state of Para, which has recently concluded a large-scale project of tenure regularisation through the improvement of cadastral information.¹¹⁴ They note that the pilot project, which included the identification of public and private lands, the verification of land claims and the assignment of titles, demanded substantial investments. They thus suggest that the scaling-up of this pilot to the national scale could be made more cost-effective by using GPS technology, satellite imagery (which Brazil already uses) and broad stakeholder participation.

Traditional cadastral maps are being used in combination with sophisticated tools such as the Social Tenure Domain Model in order to accurately differentiate between *de jure* rights and *de facto* tenure relationships.¹¹⁵ Developing countries are also experimenting with simpler and more cost-effective tools to provide tenure security, such as certification (which verifies claims to land in the absence of titles at the community level) or other forms of validation.¹¹⁶ A variety of such instruments has now been tested in the field with discrete success: the crux of the matter is turning existing best practices into common practice.¹¹⁷ Where it is difficult to unbundle individual tenure rights, collective (community) rights should be used to simplify the regularisation process. Karsenty and Assembé suggest that this should go beyond the mere designation of ‘community forests’ that does not assign enforceable rights;¹¹⁸ instead it should consist of identification, demarcation and certification (or other forms of validation) of tenure rights at the level of the community.

¹¹⁴ Reydon, Costa, ‘Cadastro e regulação da propriedade da terra: um estudo do seu custo com base na legislação em vigor’ (2010) 5 Revista de Política Agrícola 84-96 cited in Reydon (n 49) 142.

¹¹⁵ Lemmen, Zevenbergen, ‘First experiences with a high-resolution imagery based adjudication approach in Ethiopia’, in Deininger et al (n 50) 96.

¹¹⁶ Mitchell and Zevenbergen (n 48) 73-4; Knox et al (n 3) 40-3.

¹¹⁷ Fitzpatrick, ‘‘Best Practice’ Options for the Legal Recognition of Customary Tenure’ (2005) 36(3) Development and Change 449.

¹¹⁸ Karsenty and Assembé (n 28) 123.

5.2.5. Provide access to justice

Access to justice requires broader reforms that address issues as disparate as the dissemination of information and education, the provision of legal aid, and the trialling of alternative dispute settlement mechanisms. Ensuring legal standing before the courts in cases of environmental crime is a problem that has often prevented public interest organisations from bringing suits purely to protect the environment.¹¹⁹ Any unwarranted legal obstacle to standing in cases of illegal deforestation should be removed for environmental organisations as well as local actors including those who have no direct interest in the resources. The most important international instrument promoting access to justice is the 1998 Aarhus Convention, which focuses on access to information, public participation in decision-making, and access to justice on environmental matters.¹²⁰ However, the Aarhus Convention is a regional treaty with 46 Parties from the pan-European region, hence it does not cover any prospective REDD-plus country.¹²¹ Outside Europe, the promotion of access to domestic legal remedies is carried out by the UN in the context of poverty alleviation,¹²² in the case of criminal justice,¹²³ in the context of legal aid and on the independence of the judiciary.¹²⁴ However, these initiatives have not solved the serious problems affecting the justice system in many countries, as seen in chapter 3.¹²⁵

¹¹⁹ Murombo, 'Strengthening Locus Standi In Public Interest Environmental Litigation: Has Leadership Moved From The United States To South Africa?' (2010) 6/2 LEAD 163, at 168.

¹²⁰ Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (adopted on 25 June 1998, entered into force 30 October 2001) 2161 UNTS 447.

¹²¹ The list of Parties can be found at UNTS, Chapter XXVII: Environment <https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-13&chapter=27&lang=en> Accessed 10 February 2014.

¹²² See, e.g. 'Legal Empowerment Initiative and the Commission on Legal Empowerment of the Poor' (UNDP) <www.undp.org/content/undp/en/home/ourwork/democraticgovernance/focus_areas/focus_justice_law/legal_empowerment.html> Accessed 10 February 2014.

¹²³ UN Commission on Crime Prevention and Criminal Justice, United Nations Principles and Guidelines on Access to Legal Aid in Criminal Justice Systems (2012) UN Doc E/CN.15/2012/L.14/Rev.1.

¹²⁴ UNGA Res 40/32 (29 November 1985) UN Doc A/RES/40/32; UNGA Res 40/146 (13 December 1985) UN Doc A/RES/40/146.

¹²⁵ Further proof of the poor access to justice in many developing countries is the special regime established under bilateral investment treaties for the protection of foreign investments in developing

The regularisation of tenure rights is often a precondition to receive legal protection by the State, yet the regularisation process itself may generate scope for abuse over vulnerable actors, especially by government officials. Secondly, tenure security depends not so much on formal land titles but rather on the protection granted,¹²⁶ for which responsibility is shared between the right-holders and the State.¹²⁷ It is therefore crucial that these stakeholders are granted access to judicial or quasi-judicial remedies to protect their interest, particularly the most vulnerable ones.

Access to justice is precluded to forest communities that are distant from courts of law, have low literacy and are unaware of their rights, lack familiarity with the legal process, or cannot afford the cost of legal representation.¹²⁸ Reducing costs, simplifying procedures and disseminating information are thus some of the measures that would improve access to justice in forest areas. States may consider introducing inexpensive specialised tribunals or bodies that deal exclusively with matters related to tenure, planning regulation or land evaluation. Moreover, they could consider providing specialised legal aid for tenure cases involving local and indigenous communities or other minorities. This would further the spirit of numerous international human right instruments,¹²⁹ and it would be consistent with the recent recommendations of the UN Special Rapporteur on the independence of judges and lawyers that the right to legal aid must not be limited to the criminal justice system but instead should extend to other areas, including violations of community or

nations, which is consolidating as customary law. For a review of these issues see F. Francioni, 'Access to Justice, Denial of Justice and International Investment Law' (2009) 29(3) EJIL 729

¹²⁶ Wendland, *Rewards for ecosystem services and collective land tenure: lessons from Ecuador and Indonesia* (University of Wisconsin 2008); A. Contreras-Hermosilla, *Law compliance in the forestry sector: an overview* (World Bank 2001) 13
<<http://siteresources.worldbank.org/EXTFORESTS/Resources/985784-1217874560960/Contreras.pdf>> Accessed 10 February 2014; J.C. Ribot, N. Peluso, 'A Theory of Access' (2003) 68(2) Rural Sociology 153.

¹²⁷ Grieg-Gran et al (n 56) 1514.

¹²⁸ Kaimowitz, 'Forest law enforcement and rural livelihoods' (2003) 5(3) Int. For. Rev. 199, at 207.

¹²⁹ *Inter alia*: UNGA, International Covenant on Civil and Political Rights (adopted on 19 December 1966, entered into force 23 March 1976) 999 UNTS 171, article 14(3)(d); International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (adopted on 18 December 1990, entered into force 1 July 2003) 2200 UNTS 3, article 18(3)(d); Convention on the Rights of the Child (adopted 20 November 1989, entered into force 2 September 1990) 1577 UNTS 3, articles 37 and 40.

minorities' fundamental rights.¹³⁰ Box 5.3 provides an example of the importance of legal aid for forest communities.

Alternative forms of dispute resolution may be more appropriate in certain contexts, but these must be strongly backed by the State for appeal and enforcement. Some of these reforms would be easier if alternative dispute settlement mechanisms were established to substitute costly and long litigation for less serious cases.¹³¹ Accessible out of court settlement of disputes in these regions – e.g. through mediation, arbitration and simplified administrative procedures – may facilitate the resolution of minor tenure disputes which are likely to arise prior to and after regularisation (e.g. the registration of land titles, the demarcation of boundaries and so forth) and which would clog up the justice system as well as require considerable financial costs for plaintiffs and defendants. In some cases it would be sufficient to give recognition to traditional dispute settlement mechanisms (as long as they are compatible with a country's legal principles). For instance, Fred-Mensa suggests that land tenure conflicts in rural Ghana, which pursuant to the country's administrative and legal decentralisation fall under the jurisdiction of local community tribunals, be solved using alternative dispute resolution techniques such as mediation and negotiation.¹³² Finally, special provisions should be made to ensure that indigenous and marginalised forest communities have appropriate and affordable (including *pro bono*) legal assistance.¹³³

¹³⁰ UNGA, Report of the Special Rapporteur on the independence of judges and lawyers, Gabriela Knaul (2013) UN Doc A/HRC/23/43.

¹³¹ Ghai, Cottrell (eds), *Marginalised Communities and Access to Justice* (Routledge 2009) 3.

¹³² Fred-Mensah, 'Capturing Ambiguities: Communal Conflict Management Alternative in Ghana' (1999) 27(6) *World Development* 951, at 957-8.

¹³³ FAO (n 96) paragraphs 21.1, 21.2, 21.3 and 21.6.

Box 5.3: Customary land and forest tenure in Papua New Guinea

Papua New Guinea (PNG) has a very peculiar tenure situation. Around two thirds of its 464,000 square kilometres are covered in forests,¹³⁴ and 97 percent of the land is held under customary law while the remaining three percent is property of the State.¹³⁵ Customary law is widely used for tenure, and there are legal restrictions on the sale of customary lands. Although forest tenure is vested within the land, there are legal limits to forest use rights from customary owners. The 1991 Forestry Act allows landowners to harvest a maximum of 500 cubic meters per year in each indigenous group's territory for customary use, mandating that the National Forest Authority must grant a logging concession for any harvesting beyond that threshold.

However, the *de jure* recognition of tenure rights to indigenous communities does not automatically translate into effective authority and control over the forests. For any commercial activity forest management rights rest with the National Forest Authority which is the only entity legally authorised to enter into agreements with indigenous people in order to acquire timber rights, which can then be leased back to private operators at the Government's discretion. Unfortunately, evidence suggests that the government generally lacks capacity to monitor compliance with contract requirements, especially with regard to environmental sustainability, and provide support to indigenous people for the enforcement of their rights; illegal invasions and breaches of contract are not uncommon and often remain unpunished.¹³⁶

A second issue is that indigenous peoples are often unaware of their rights and obligations. This has influenced negotiations with logging companies which resulted in unfavourable contractual conditions and even more widespread illegality.¹³⁷ Attempts to conclude REDD-plus agreements with indigenous peoples by so-called 'carbon cowboys' further highlighted the problem. The extensive rights held by indigenous communities, the absence of framework legislation and the generally passive role of the State in PNG forests seemed the perfect opportunity for unscrupulous businessmen. However, after attracting negative attention from the international media, the carbon cowboys have largely disappeared from PNG and the contracts signed are seen as having no validity.¹³⁸ These examples point at the necessity of providing legal aid to communities prior to the arousal of controversies.

¹³⁴ ITTO, *Achieving the ITTO Objective 2000 and Sustainable Forest Management in Papua New Guinea* (ITTO 2007) 3.

¹³⁵ Yala (ed.), *The Genesis of the Papua New Guinea Land Reform Program: Selected Papers from the 2005 National Land Summit* (NRI 2010) vii <www.nri.org.pg/publications/Recent%20Publications/National_Land_Summit_CRC_200910.pdf> Accessed 10 February 2014.

¹³⁶ Cotula and Myers (n 31) 50.

¹³⁷ Larson et al (n 91) 91; see also C. Filer, N. Sekhran, *Loggers, Donors and Resource Owners: Policies That Work for Forests and People* (IIED 1998); R.J. Broegaard, 'Land Tenure Insecurity and Inequality in Nicaragua' (2005) 36(5) *Development and Change* 845.

¹³⁸ See, e.g., the following documentary: SBS 'Climate Controversy in PNG' (14 December 2009) <<http://www.youtube.com/watch?v=Hc2YxR3fl6I>> Accessed 10 February 2014.

5.2.6. Improve law enforcement

Regularising tenure rights makes certain activities illegal, but the rights are enjoyed in practice only if illegal activities can be stopped. A typical example is that of forests under State domain: in the case of illegal logging in Ecuador discussed earlier,¹³⁹ several actors (from subsistence farmers to organised loggers) cut and burn forests that are formally under State domain. Some do it to sustain their livelihoods, for others it is business. The discrepancy between *de jure* situations (forests under State control) and *de facto* situations (forest used by a number of local actors) is known, but the State does little to prevent illegal activities. In such case, the State may either legalise use rights of certain stakeholder groups or, if it decides to make all forest exploitation illegal, it must have the capacity to monitor and enforce the law.

If right-holders do not have exclusion rights, or if they have exclusion rights but not the power to enforce them, they may be hard-pressed to avoid further deforestation because the forest would in practice be treated like commons.¹⁴⁰ For instance incentives could be given to those who are most affected by changes in forest management regime (e.g. subsistence farmers, small-scale loggers) but are unlikely to have the power to stop illegal activities. Alternatively, incentives could be given to those who have the power to exclude other users regardless of their local legitimacy (e.g. prominent members of the local timber cartel); this may improve effectiveness but may reinforce inequality, create livelihood problems and social conflict. Legal recognition of stakeholder rights would have to be complemented by effective police powers.

Tenure security is ultimately about the capacity to protect and enforce rights. The major risk is that of land grabbing and dispossession, or the arbitrary acquisition of control over lands and forests. Land grabs often happen when right-holders are not aware of their rights, but sometimes it results from conflicts arising despite regular

¹³⁹ See chapter 2 box 2.3.

¹⁴⁰ This would trigger the ‘tragedy of the commons’ dynamic discussed above, chapter 2 (n 101).

titling.¹⁴¹ In forest regions, where the rule of law is often absent and the State is a dim presence, registered land titles may be of little importance. The support of public authorities is necessary for upholding the rule of law, monitoring compliance and mobilising police forces rapidly and effectively. This depends on the manner in which public institutions administering the land rights system perform their functions. Improving law enforcement in rural and forest areas must be done as part of a comprehensive land policy reform that makes institutions more efficient and transparent, able to execute their specific functions.

Institutional capacity should be built at various levels, focusing on local governments. The subsidiarity principle requires an extensive transfer of financial, human and technical capacity to local governments. In order to avoid the problems of ‘wild’ decentralisation, local forest management needs institutions, financial incentives, transparency and the full support of public authorities.¹⁴² Capacity must be built at the lower government levels, and the decentralisation of planning and management functions must keep pace with such capacity increases.

The gap between the letter and practice of laws and regulations is particularly large in remote forest regions.¹⁴³ In order to ensure that tenure rights are protected, local stakeholders should be supported by effective police and judicial authorities.¹⁴⁴ Governments could consider establishing dedicated law enforcement units, such as Brazil’s new environmental security force,¹⁴⁵ and in line with Interpol’s Leaf Programme.¹⁴⁶ Such specialised enforcement bodies could be dedicated to the permanent monitoring and policing of many environmental crimes, from wildlife trafficking to illegal logging, and could also support the enforcement of tenure rights in forests and other areas with significant illegality. They could also be part of coordinated regional efforts to tackle transboundary crime. Creating a specialised

¹⁴¹ Cousins, ‘How Do Rights Become Real?: Formal and Informal Institutions in South Africa’s Land Reform’ (1997) 28(4) IDS Bulletin 59, at 62 and 64.

¹⁴² Pfaff et al (n 34) 30.

¹⁴³ Cotula and Myers (n 34) 23-4.

¹⁴⁴ FAO (n 99) paragraphs 5.1 and 8.8.

¹⁴⁵ The effectiveness of these special units is still in doubt, however: D’Ávila Bartels, ‘Amazon anti-logging force fails to save forest’ *Deutsche Welle* (Bonn, 29 April 2013) <www.dw.de/amazon-anti-logging-force-fails-to-save-forest/a-16772293> Accessed 10 February 2014.

¹⁴⁶ See *infra* (n 20).

police force for tenure and environmental crimes is demanding. As said earlier, REDD-plus should at least acknowledge and encourage participation in such international initiatives, and it could also provide additional targeted financial and political support as necessary.

Support to developing countries' administrative and law enforcement capacity is also channelled through development assistance. The World Bank assists nearly 30 developing nations in building bureaucratic capacity through country-specific and multi-stakeholder participatory approaches, and the sharing of best practices and information.¹⁴⁷ The UNDP works in more than 100 developing nations to promote 'democratic governance' through five global programmes on access to justice and the rule of law, corruption and development effectiveness, electoral cycle support, human rights, and parliamentary strengthening.¹⁴⁸ The OECD uses the leverage of donor assistance to promote development goals and also to create a favourable environment for international investments, tackling corruption and crime. Most often, capacity concerns are addressed on a thematic basis by *ad hoc* treaty provisions. Most MEAs contain assistance norms which encourage capacity transfers in order to implement the relevant obligations, often subjecting developing countries' implementation to the receipt of such assistance.¹⁴⁹

¹⁴⁷ World Bank, *Strengthening World Bank Group Engagement on Governance and Anticorruption: Second-Year Progress Report* (World Bank 2009) <<http://siteresources.worldbank.org/INTPREMNET/Resources/GACReport2.pdf>> Accessed 10 February 2014.

¹⁴⁸ These initiatives use different tools, such as capacity building for governments (e.g. the efforts to promote Parliamentary development), providing direct support to civil society (such as the Legal Empowerment Initiative), or running awareness campaigns (the Anti-Corruption Today campaign). More information about UNDP's Democratic Governance programme can be found on the organisations webpage: 'Our Global Programmes' (UNDP 2013) <www.undp.org/content/undp/en/home/ourwork/democraticgovernance/global_programmes.html> Accessed 10 February 2014.

¹⁴⁹ E.g., the UNFCCC requires developed countries to promote, facilitate and finance the transfer of know-how to developing country Parties, to enable them to implement the provisions of the Convention" (article 4(5)) and to promote "the development and implementation of education and training programmes, including the strengthening of national institutions and the exchange or secondment of personnel to train experts in this field, in particular for developing countries"; United Nations Framework Convention on Climate Change (adopted in Rio de Janeiro on 9 May 1992, entered into force 31 March 1994) 1771 UNTS I-30822, article 6(b)(ii); Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entered into force 16 February 2005) 37 ILM 22, article 10(e).

Table 4: Summary of challenges and possible solutions

Tenure problem	Possible solution
Lack of clarity on ownership, overlapping claims	Harmonise legislation, reform land registry/cadastré, increase stakeholder participation in mapping processes
Customary rights versus state ownership	Review and harmonise legislation (recognition of informal tenure arrangements in the law)
Lack of bureaucratic capacity	Strengthen institutes in charge of registration, promote institutional coordination, simplify regularisation process
Lack of stakeholder information and capacity	Simplify land allocation and registration process, provide legal aid, raise awareness
Poor rule enforcement, monitoring and sanction	Strengthen local and state institutions, use multi-stakeholder processes, establish specialised environmental police force
Vested interests, abuse by elites/government	Promote transparency and decentralisation

5.3. The international dimension of tenure reforms

Highlighting the necessity of tenure reforms is not sufficient: the international community should also assist developing countries in carrying out such reforms. Karsenty and Ongolo convincingly affirm that the government of a “fragile” developing country (i.e. a country lacking governance capacity) would be unable to “implement and enforce the appropriate policies and measures which could translate into deforestation reduction”.¹⁵⁰ Political corruption could worsen the uneven distribution of land rights in favour of government officials or powerful groups so as to benefit from REDD-plus funds.¹⁵¹ Bureaucratic corruption could undermine the validity of the carbon monitoring process, overlooking illegal logging and other

¹⁵⁰ Karsenty, Ongolo, ‘Can “fragile states” decide to reduce their deforestation? The inappropriate use of the theory of incentives with respect to the REDD mechanism’ (2012) 18 FORPOL 38, at 42-3.

¹⁵¹ Thorpe and Ogle (n 23) 4, 31.

activities or creating fraudulent land titles or carbon rights.¹⁵² A partial and ineffective judiciary undermines the functioning of a market economy.¹⁵³ Despite REDD-plus still being in its conception phase, major episodes of market fraud have already occurred,¹⁵⁴ prompting Interpol to declare that “the potential for criminality [in REDD-plus] is vast and has not been taken into account by the people who set it up”.¹⁵⁵

Decisions about the allocation and extent of rights over land and natural resources have profound impacts on several policy objectives, including, *inter alia*, the eradication of extreme poverty and hunger, the attainment of environmental sustainability and the establishment of an integrated partnership for development (part of the Millennium Development Goals).¹⁵⁶ It is unsurprising, then, that international law has considered the issues of land tenure quite extensively. The fundamental right to own and not be arbitrarily deprived of property sanctioned in article 17 of the Universal Declaration on Human Rights is arguably the first provision that grants some legal protection. The 1966 International Covenant on Economic, Social and Cultural Rights recognises the right to adequate housing in article 11(1).¹⁵⁷ The Committee on Economic, Social and Cultural Rights subsequently specified that the right to housing contains seven elements, one of which - the ‘legal security of tenure’ – guarantees legal protection against forced

¹⁵² *Ibid.* See also Lang, ‘Corruption allegations cloud the Indonesia-Norway billion dollar deal’ (REDD-monitor.org, 21 September 2010) <www.redd-monitor.org/2010/09/21/corruption-allegations-cloud-the-indonesia-norway-billion-dollar-deal> Accessed 11 February 2014; Sydney Morning Herald, ‘Carbon cowboys’ The SMH (Sydney, 23 July 2011) <www.smh.com.au/environment/conservation/carbon-cowboys-20110722-1hssc.html> Accessed 11 February 2014.

¹⁵³ Ghai, Cottrell (eds), *Marginalised Communities and Access to Justice* (Routledge 2009) 1.

¹⁵⁴ E.g. in 2010 the British company Carbon Harvesting Corporation attempted to fraud the taxpayers in Liberia with the complacency of government representatives: Reuters, ‘Liberia seeks trial of UK national over carbon deal’ *Reuters* (13 October 2010) <<http://af.reuters.com/article/topNews/idAFJOE69C0NC20101013?pageNumber=1&virtualBrandChannel=0>> Accessed 11 February 2014.

¹⁵⁵ Young, Interpol, October 2009, cited in Vidal, ‘UN’s forest protection scheme at risk from organised crime, experts warn’ *The Guardian* (5 October 2009).

¹⁵⁶ Deninger, Enemark, ‘Land governance and the Millennium Development Goals’, Deininger et al (n 47) 2; Palmer et al (n 38) 3.

¹⁵⁷ International Covenant on Economic, Social and Cultural Rights, adopted on 16/12/1966, UNGA Resolution 2200 (XXI), 21st Session, (in force since 3/1/1976), A/6316 (1966), 993 UNTS 3.

eviction, harassment and other threats, regardless of the type of tenure enjoyed.¹⁵⁸ The right was subsequently confirmed by a number of international instruments, *inter alia* the 1996 Istanbul Declaration and the Habitat Agenda,¹⁵⁹ and the UN Resolution 2001/28 on ‘adequate housing as a component of the right to an adequate standard of living’.¹⁶⁰

The protection of tenure rights has been further expanded for indigenous and other traditional communities rights by the ILO Convention 169¹⁶¹ and UNDRIP.¹⁶² The ILO Convention has been ratified by 20 countries, mostly in Latin America,¹⁶³ while UNDRIP was adopted with 144 votes in favour and only 11 abstentions and four against.¹⁶⁴ These instruments establish the indigenous right to own, use, manage, develop or conserve lands and resources;¹⁶⁵ the duty of the State to consult and share benefits with indigenous peoples for resources extracted in their territory;¹⁶⁶ the duty of the State to recognise customary tenure systems;¹⁶⁷ the duty of the State to prevent evictions and dispossessions¹⁶⁸ and to actively protect indigenous people’s tenure

¹⁵⁸ Committee on Economic, Social and Cultural Rights, General Comment No. 4 on the Right to Adequate Housing, UN Doc EC/12/1991/41 (1991).

¹⁵⁹ UN-HABITAT, Report of the United Nations Conference on Human Settlements (Habitat II), Istanbul 3-14 June 1996 (1996) U.N. Doc. A./CONF.165/14.

¹⁶⁰ UN Commission on Human Rights, Resolution 2001/28 (adopted on 20 April 2001) E/CN.4/RES/2001/28.

¹⁶¹ C169 Convention concerning Indigenous and Tribal Peoples in Independent Countries (adopted 27 June 1989, entered into force 5 September 1991) 1650 UNTS 383.

¹⁶² United Nations Declaration on the Rights of Indigenous Peoples (13 September 2007 UNGA Res 61/295) (UNDRIP).

¹⁶³ The list of ratifications is available at ‘Ratifications of C169’ (ILO 2014) <www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO:11300:P11300_INSTRUMENT_ID:312314:NO> Accessed 11 February 2014.

¹⁶⁴ The four countries opposing UNDRIP are from the developed world, while among the eleven abstentions only Colombia, Nigeria and Kenya are REDD-plus countries.

¹⁶⁵ ILO (n 161) article 15; UNDRIP articles 25 and 29.

¹⁶⁶ *Ibid* article 16.

¹⁶⁷ UNDRIP (n 162) articles 26 and 27(2).

¹⁶⁸ *Ibid* articles 8 and 10.

rights;¹⁶⁹ and the duty of the State to obtain free prior and informed consent before the approval of any project affecting indigenous land and resources.¹⁷⁰

More recently, the first international instrument dedicated to tenure issues was agreed under the auspices of FAO's Committee on Food Security. The Voluntary Guidelines on best practices for tenure governance¹⁷¹ help build international consensus on matter related to land and natural resource tenure. The guidelines cover recognition, transfer and administration of tenure rights and aim to spur countries to improve the governance of tenure of land, fisheries and forests with the primary objective of achieving food security and sustainable development.¹⁷²

REDD-plus thus operates in the context of extensive, albeit fragmented, international instruments which have already stated the importance of secure tenure as a human right and as a tool to achieve environmental sustainability and food security, and which has already produced a conceptual effort to codify the conditions for tenure security. The proposed programme's contribution will thus be geared towards the fulfilment of existing international obligations and guidelines. As a matter of fact, the COP has acknowledged the importance of tenure security and requested countries to address tenure problems.¹⁷³ However, reference to tenure in UNFCCC COP decisions is only cursory and, on the official UNFCCC agenda, the issue has received overall far less attention than carbon-related aspects.¹⁷⁴

Tenure has been considered at project level, but results are less than encouraging. Some evidence suggests that current REDD-plus projects are reinterpreting land and forest legislation so as to create benefit-sharing mechanisms that favour the private

¹⁶⁹ *Ibid* article 27(3).

¹⁷⁰ *Ibid* article 32(2).

¹⁷¹ FAO (n 99).

¹⁷² The Guidelines were prepared with an inclusive consultation process, finalised in intergovernmental negotiations (that included participation of government officials, civil society organizations, private sector representatives, international organizations and academics) and have been endorsed by over 80 countries plus the EU at the 38th special session of on 11 May 2012; FAO, 'Countries adopt global guidelines on tenure of land, forests, fisheries' (FAO, 2012).

¹⁷³ Chapter 4 section 1.2.

¹⁷⁴ Doherty and Schroeder (n 44) 69.

sector over communities or the State.¹⁷⁵ This backs up the argument that the establishment of carbon rights cannot be left to private contractual negotiations and that different forms of tenure must be addressed together in legislation so as to avoid piecemeal interventions.

The establishment of property rights over carbon must be flexible so as to be compatible with these systems, and not a constraint to the recognition of tenure rights. Rather than attempting to superimpose a Western conception of tenure with top-down rules on carbon property, REDD-plus should first and foremost encourage the resolution of existing tenure conflicts, the enactment of nationally appropriate legislation and the recognition of diverse types of tenure at the local level. This can be done indirectly, e.g. by requesting the application of the FAO Guidelines on Tenure or certain specific requirements relating to community involvement, or directly through the endorsement of best practices and the work of the multilateral institutions in the readiness process. In both cases, there are evident benefits in having independent monitoring of progress in this area.¹⁷⁶

One of the programme's major contributions will be the provision of financial support for tenure reforms. Olsen and Bishop provided some estimates of the transaction cost of tenure regularisation at project level using empirical data from Brazil's demarcation of indigenous territory, Mozambique's demarcation programme, the creation of social reserves and protected areas in Brazil and World Bank cost estimates of land titling programmes in Laos, the Philippines, Indonesia and Cambodia.¹⁷⁷ The estimates include "the costs of awareness raising, dispute resolution, equipment and material, staff costs (government and NGO), training, administrative costs and recurrent costs of training, staff, etc."¹⁷⁸ They conclude that expenses are relatively low but that "investment in rights and tenure recognition is critical".¹⁷⁹ Scaling up tenure regularisation efforts to the national level, which

¹⁷⁵ Nhamumbo, Camargo, *Carbon rights legislation: not yet ready for private sector REDD+* (IIED 2013) <<http://pubs.iied.org/17148IIED.html>> Accessed 11 February 2014.

¹⁷⁶ Knox et al (n 3) 34-7.

¹⁷⁷ Olsen, Bishop, *The Financial Costs of REDD: Evidence from Brazil and Indonesia* (IUCN 2009) 18.

¹⁷⁸ *Ibid.*

¹⁷⁹ *Ibid.*

includes the modernisation of the cadastre and the deployment of GPS and remote technology, would entail higher costs.¹⁸⁰ Moreover, the timescale of land reforms is such that financial support must be stable and predictable over the long term.¹⁸¹ Finally, the cost of assisting disadvantaged stakeholders in the regularisation process must also be factored in. Earmarked support for national-level tenure reforms must thus be scaled-up and extended beyond the short time-frame of readiness.¹⁸² Some financial support should also be reserved “for countries that have made substantial progress in alleviating tenure concerns”.¹⁸³

Furthermore, REDD-plus can provide a platform for sharing information and developing best practices on tenure among countries. Multilateral institutions can proactively disseminate information and organise joint missions, international workshops and technical meetings – as it is already praxis in most MEAs. Information sharing among countries in a particular region would be sensitive to the cultural, economic and social context of each country. Similarly, capacity-building courses for national tenure specialists could be organised under the auspices of REDD-plus so as to form an efficient and professional bureaucracy. Further, REDD-plus can facilitate the transfer of technology to developing countries, including sharing of expensive remote sensing imaging (GPS, satellite) with more resourceful countries including in the South. For instance, Brazil has recently entered discussions with other developing countries to export its remote sensing forest monitoring technology.¹⁸⁴ REDD-plus could work as a forum to promote bilateral or multilateral deals of this kind, both South-South and North-South.

Finally, and perhaps most crucially, REDD-plus could generate forward political momentum on this issue. Both the regularisation process and the long-term security of tenure rights are deeply affected by politico-economic dynamics and relations, corruption, elite capture and government collusion. Inadequate recognition and

¹⁸⁰ Palmer et al (n 38) 50-2.

¹⁸¹ *Ibid.*

¹⁸² See chapter 8 section 2.

¹⁸³ Knox et al (n 3) 34-7.

¹⁸⁴ Witkop, ‘Brazil exports satellite rainforest monitoring’ *Deutsche Welle* (10 November 2011) <www.dw.de/brazil-exports-satellite-rainforest-monitoring/a-15516250> Accessed 11 February 2014.

protection are often caused by a lack of government transparency.¹⁸⁵ Vested interests, ethnic divisions, class warfare and traditional privileges create political economic dynamics that allow powerful groups to gain from tenure insecurity and block reforms. In some cases, officials abuse their power to directly acquire property rights over forested lands. In other cases, they disregard due process to speedily implement development projects (e.g. mining, infrastructure) or grant licences to private operators (e.g. logging or agricultural enterprises). Tenure distribution was historically used as a mechanism to allocate power across society (whether redistributing it or reinforcing previous inequalities),¹⁸⁶ and the control over land and natural resources mirrors, in societies across the world, the social distribution of power (status, class, wealth). Seen in this light, tenure chaos is not the result of the neglect of urban elites for remote rural areas, but rather a deliberate attempt to consider these as empty spaces that can be appropriated at whim by some segments of society. The lack of recognition for traditional rights, for instance, becomes a political strategy and not a consequence of incapacity.

Major land reforms typically occurred alongside radical political transformations, such as revolutions, decolonisation or the end of communism.¹⁸⁷ Anything short of a revolution will require long and strenuous political efforts to prepare and debate a policy or law. This may take several years and require the application of adequate incentives.¹⁸⁸ Moreover, changing the political economy of tenure distribution is even more difficult if forests are perceived to be worth more because of REDD-plus. There are fears that REDD-plus would push land values up triggering large-scale land acquisitions from foreign and national elites, or that the State may claim exclusive rights to carbon and consequently limit forest management rights for local people (especially in countries where most forests already belong to the State).¹⁸⁹

¹⁸⁵ Knox et al (n 3) 49.

¹⁸⁶ Bruce, Russett, 'Inequality and Instability: The Relation of Land Tenure to Politics', (1964) 16 *World Politics* 442-54; Lund, 'Struggles for Land and Political Power: On the Politicization of Land Tenure and Disputes in Niger' (1998) 1(40) *J. Legal Pluralism & Unofficial Law*; Palmer et al (n 35).

¹⁸⁷ A recent, positive, example of major tenure reform in a developing country is that of Rwanda mentioned in note 80. In that case, the reform was strictly linked with the peace process that followed the 1994 genocide.

¹⁸⁸ Palmer et al (n 38) 56.

¹⁸⁹ Knox et al (n 3) 27.

This could cause mass evictions *de jure* (in case of large-scale land acquisitions) or *de facto* (through the unlawful deprivation of forest peoples' means of subsistence).

But the importance of bringing tenure issues into the international agenda and giving voice to national stakeholders in international fora should not be underestimated. Provisions on tenure in the REDD-plus text may have very limited direct consequences if they are drafted in soft terms and are not accompanied by independent monitoring and strict reporting obligations. However, spelling out safeguards on tenure would provide a voice for stakeholders to speak out on such issues at international meetings, exposing government wrongdoings and applying political pressure. This would add context to existing international instruments dealing with tenure and may, over time, foster the establishment of best practices that incorporate many of the provisions drafted in documents such as the FAO Voluntary Guidelines.

More crucially, civil society in developing countries must be fully behind tenure reforms, resistance from the groups that lose out must be addressed, and political leaders must show genuine commitment. Luckily, the urgency of reform is already perceived in many countries, especially where inequalities in tenure distribution are evident: marginalised groups, such as indigenous peoples, are joining forces and raising their voices nationally and in international fora. These forces must be harnessed and supported to build the political platform that pushes the reform agenda up the political ladder. Combined action from organised domestic and international actors offers the best prospects for challenging existing imbalances of power and political economies.

This chapter has shown that illegality and tenure insecurity are linked in tropical forests and that this hampers the implementation of consistent forest policies. Economic incentive instruments empower stakeholders in forest management but the devolution of responsibilities requires the prior recognition and protection of their tenure rights. In fact, tenure insecurity impedes the sale of ecosystem services at the subnational level because it interferes with the relationship between the provider and the buyer of such services. By contrast, tenure reform can reduce REDD-plus costs, generate political support, reduce conflicts and crime, attract investments, and

mitigate drivers. It is only by providing legal certainty over management rights and responsibilities that rural policies and measures can be successfully implemented. As such, tenure clarity is the fundamental prerequisite of a sound forest governance framework.

The analysis also suggests some measures to regularise and protect tenure rights, whose implementation is extremely complex, costly and both legally and politically challenging. This makes a clear case for REDD-plus to reinforce its contribution to tenure regularisation by, e.g., endorsing the FAO Guidelines, providing earmarked assistance, monitoring the allocation of rights as part of safeguard implementation and supporting vulnerable stakeholders. Once tenure is regularised and protected from illegal activities, empowered stakeholders can participate in the definition of a comprehensive landscape policy. Participation could be achieved using spatial planning tools, and this collective level of action is necessary to avoid fragmentation and to achieve the goal of REDD-plus. The contribution of spatial planning in building effective landscape governance will be analysed in the next chapter.

Spatial planning for sustainable landscapes in REDD-plus

The second policy catalyst for domestic landscape governance is spatial planning. While tenure reform clarifies the rights to access and use forest landscapes, spatial planning adds an element of collective negotiation in regulating such rights. Commonly regarded as a top-down prescriptive instrument that affirms State supremacy over the market, spatial planning is here intended as a tool to promote informed participation in decision-making and support market-based environmental policies. Section 6.1 defines spatial planning and suggests general principles for its correct application. Section 6.2 demonstrates that spatial planning can contribute to sustainable forest landscapes by addressing the drivers in the landscape and by establishing a focal procedure to mainstream participatory processes in land use decisions. Section 6.3 presents the specific benefits that spatial planning can have for REDD-plus implementation. Finally, section 6.4 reviews the penetration of spatial planning in international environmental law and it suggests ways in which REDD-plus can contribute to its development.

6.1. The concept and character of spatial planning

6.1.1. Definition and interpretations

Spatial planning is a practice and a discipline concerned with the physical organisation of development activities across the territory. It defines the desired outcome of land use, the management regime anticipated to achieve such outcomes and the underlying decision-making process.¹ Its key goals are to create a more

¹ US Department of the Interior, *Land Use Planning Handbook* (USDOI 2005) 12-3.

rational territorial organization of land uses, to co-ordinate public investment² and to reconcile competing policy goals by identifying long- or medium-term objectives and strategies.³

The treatment of plans in the literature, variedly defined as agendas, policies, visions, designs and strategies,⁴ reflects the versatile but also inherently vague nature of the concept and the deeply divergent views between practitioners and scholars about its nature and applicability. It also reflects a tension between the increasingly specialised and fragmented understanding of planning in research and its integrative ethos in practice. In fact, because the practice of planning deals with a spectrum of development activities - from the built environment to urban infrastructure, from rural development to habitat conservation – the discipline of planning has evolved into sub-fields, each with its own literature and theoretical underpinnings.

In this discussion, spatial planning is intended in its widest possible sense as *an integrated system of decisions adopted through a formalised process and aimed at promoting the optimal use of land and natural resources over a well-defined space and period of time*. This definition contains all the constitutive elements of spatial planning: (i) it is a decision-making procedure; (ii) such procedure is formal (i.e. it follows an established form or rule);⁵ (iii) it is directed towards the optimal use of space and resources across the landscape; and (iv) the decision-making process is characterised by high complexity which demands a set of interdependent decisions underpinned by a high level of organisation and coordination.⁶ More specialised definitions of planning can be subsumed in this broad connotation of the term.⁷

² Commission, *The EU compendium of planning systems and policies, Regional Development Studies Report 28* (Office for Official Publications of the European Communities 1997) 21.

³ UNECE, *Spatial Planning: Key Instrument for Development and Effective Governance with Special Reference to Countries in Transition* (2008) UN Doc ECE/HBP/146, p. 1.

⁴ Couclelis, 'Where has the future gone? Rethinking the role of integrated land-use models in spatial planning' (2005) 37 *Environment and Planning A* 1356.

⁵ Mintzberg defines formalisation as the 'decomposition, articulation and rationalisation of individual decisions'; here we choose a more literal definition of formality that accentuates the conventional character of the planning procedure. Mintzberg, *The rise and fall of strategic planning* (Free Press 1994) 15.

⁶ *Ibid* 12.

⁷ As in all fields of human investigation, there is here no shortage of views that contrast with this interpretation of the term. The reader will be thus asked to accept the definition provided here as the

Spatial planning is typically associated with landscape governance. For instance, the European Landscape Convention requires each Party “to integrate landscape into its regional and town planning policies”.⁸ The inclusion of Protected Landscapes in the IUCN’s classification of protected areas implies a previous process of demarcation and designation, which is a typical spatial planning measure.⁹

Planning’s regulatory dimension commonly finds expression in zoning regulations and planning permissions, two instruments used by the authorities to define the permitted land and natural resource use on a case-by-case basis.¹⁰ On the one hand, spatial planning historically embodied a technocratic conception of governance, dominated by networks of professionals and moved by a quasi-scientific, highly technical ethos.¹¹ It used a rationalistic and quantitative approach that assumes the existence of “an identifiable and quantifiable public interest”.¹² Such approach needs conspicuous scientific and technical data which, given time and resource constraints, are often inaccurate or uncertain.¹³ Critics also point out that technical planning lacks vision, that it is characterized by short-time horizons and by short-sighted and *ad hoc* value choices.¹⁴

On the other hand, spatial planning is also intended to include “the institutional and social resources through which [legislative and regulatory] frameworks are

basis for this particular discussion. For different interpretations see, for instance: K. Bishop, M. Tewdwr-Jones, D. Wilinkson, ‘From Spatial to Local: The impact of the European Union Local Authority Planning in the UK’ (2000) 43(3) *Journal of Environmental Planning and Management* 309.

⁸ COE, European Landscape Convention (adopted on 20 October 2000, ETS 176, entered into force 1 March 2004) 1 ETS 176, article 5.

⁹ Dudley (ed.), *Guidelines for Applying Protected Area Management Categories* (IUCN 2008) 20-2.

¹⁰ UK Office of the Deputy Prime Minister, *Planning Policy Statement 1: Delivering Sustainable Development* (UK Government 2005)

¹¹ Couclelis (n 4) 1356; the same point is made also in Beek, Burrough, McCormack (eds.) *Quantified Land Evaluation* (ITC Publication 1987); Driessen, Konijn, *Land Use Systems Analysis*, (Wageningen Agricultural University 1991); Hall, ‘The city of theory’, in LeGates, Stout (eds.), *The City Reader* (Routledge 1996) 382.

¹² Briassoulis, ‘Who plans whose sustainability?: Alternative roles for planners’ (1999) 42(6) *Journal of Environmental Planning and Management* 889, at 893.

¹³ *Ibid.*

¹⁴ Couclelis (n 4) 1357.

implemented, challenged and transformed”.¹⁵ In recent years a resurgence of strategic planning and the introduction of strategic environmental assessment have revamped the idea that “politics and conflict lie at the heart of planning”.¹⁶ As noted by Palmer et al, ‘land governance is more about power and the political economy of land [than it is about technical capacity]’.¹⁷ Spatial planning is widely recognised as having the important political function of creating a process for the reconciliation of diverging stakeholder positions and a restructuring of their social relations,¹⁸ as shown in box 6.1; it is an arena for political confrontation in which governments are asked to bring coherence and unity among different group positions. As such it can be an instrument for conflict prevention and conflict resolution.¹⁹

International initiatives designed to improve land administration systems in developing countries have been relatively unsuccessful for they focused disproportionately on technical and institutional aspects while ignoring burning political questions, such as who benefits from the existing legal, institutional and policy frameworks for land, what are the incentive structures for the various stakeholders or who has what influence on land use decisions. In tropical forests, technocratic spatial plans would fail to attract support from stakeholders, therefore suffering from enforcement problems and the absence of a stable political environment.²⁰ A politically astute process is therefore necessary to the successful implementation of the plan.

¹⁵ Davoudi, Crawford, Mehmood, ‘Climate Change and Spatial Planning responses’, in Davoudi, Crawford, Mehmood (eds.), *Planning for Climate Change: strategies for mitigation and adaptation for spatial planners* (Earthscan 2009) 14.

¹⁶ Jones et al, *Strategic environmental assessment and land use planning: an international evaluation* (Earthscan 2005) 4.

¹⁷ Palmer, Fricska, Wehrmann, *Towards improved land governance* (UN-HABITAT 2011) 1.

¹⁸ Jones (n 16); Dalal-Clayton, Dent, Dubois, *Rural Planning in the Developing World with a Special Focus on Natural Resources: Lessons Learned and Potential Contributions to Sustainable Livelihoods - An Overview* (IIED 2000).

¹⁹ Susskind, van der Wansem, Ciccareli, *Mediating Land Use Disputes: Pros and Cons* (Lincoln Institute of Land Policy 2000); Solberg, Miina (eds.), *Conflict Management and Public Participation in Land Management* (Proceedings of the International Conference, Joensuu, Finland, June 1996).

²⁰ Dalal-Clayton et al (n 18) 31.

Box 6.1: An example of conflict-prone planning: ‘fortress conservation’²¹

Protected areas have typically been established using top-down regulatory measures based on planning decisions that had little concern for local realities. This approach led to mounting tensions between conservation objectives and human needs. Today, more than 122,000 nationally designated protected areas cover over 12 percent of the earth’s land surface and another 1.6 percent of the oceans.²² Permanent settlements are already found within the boundaries of 70 percent of protected areas in tropical forest regions, and some form of human land use occurs around all but the most remote protected areas.²³

A paradigmatic example of how top-down segregative planning can backfire is provided by the expansion of forest reserves in India in the early twentieth century. The overwhelming complexity of regulating human use of forests outside protected areas led the government to expand its system of forest reserves without consultation. But the widespread and coordinated noncompliance by local villagers with regulatory planning undermined the conservation goal and gradually forced the forest department to convert many of these protected areas into community forests managed by village-level forest councils.²⁴ Many protected areas established through top-down planning decisions have proven impossible to defend from illegal invasions, and their status is increasingly threatened by downgrading, downsizing, and degazettement.²⁵ Degazettement is a popular measure used by regional governments in Indonesia to reduce the extent of protected forests in their territory, and the national Government too has recently justified it on grounds of the *de facto* degraded condition of certain forests.²⁶ This proves that the long-term effectiveness of environmental protection measures must be based on a vision of territorial development shared by all stakeholders.

Briassoulis calls ‘hybrid planning’ an approach that recognises the importance of both technical and political elements.²⁷ Analytical data provide a basis to understand

²¹ Brockington, Igoe, ‘Eviction for Conservation. A Global Overview’ (2006) 4(3) *Conservation and Society* 424, at 443.

²² Bertzky et al, *Protected Planet Report 2012: Tracking progress towards global targets for protected areas* (IUCN/UNEP 2012) 5.

²³ DeFries et al, ‘Land use change around protected areas: management to balance human needs and ecological functions’ (2007) 17(4) *Ecological Applications* 1031, at 1034.

²⁴ See Agrawal, ‘Community, Intimate Government, and the Making of Environmental Subjects in Kumaon, India’ (2005) 46(2) *Current Anthropology*; Agrawal, Ostrom, ‘Collective Action, Property Rights, and Decentralization in Resource Use in India and Nepal’ (2001) 29(4) *Politics & Society* 485.

²⁵ ‘Downgrading’ is any decrease in legal restrictions on the number, magnitude, or extent of human activities within a protected area; ‘downsizing’ is a decrease in size of a protected area through a legal boundary change; ‘degazettement’ is a loss of legal protection for an entire protected area; Mascia, Pailler, ‘Protected area downgrading, downsizing, and degazettement (PADDD) and its conservation implications’ (2010) 00 *Conservation Letters* 1.

²⁶ Simamora, ‘Govt [sic] legalizes conversion of protected forest areas’ *Jakarta Post* (3 March 2010) cited in Mascia and Pailler (n 28) 5.

²⁷ Briassoulis (n 12) 895.

the character, causes and consequences of forest loss and the possible measures to regulate it, setting a safe minimum standard below which the desired policy objective cannot be achieved. Within this boundary, stakeholders negotiate trade-offs to achieve consensus over the final outcome. While spatial planning as a theoretical discipline is often confined in the orthodox view of the extremes, its practical application is invariably hybrid: knowingly approaching it from this perspective would promote popular support while maintaining a firm scientific basis.

6.1.2. Principles of good spatial planning

If planning is a hybrid exercise rooted in social science, its implementation cannot be defined by technical rationalism only. Value choices are made when deciding who has what rights to use land and resources, how competing uses (and the interests underpinning such uses) are to be reconciled and how benefits and costs should be distributed. General principles emerge from the literature to guide these choices.²⁸

The *democratic principle* postulates that planning decisions should be made by accountable bodies with legitimate authority, through procedures established in law that ensure fairness and respect of human rights, and taking into account recommendations made by relevant experts. Accountability should be clearly defined at all levels of administration and local communities must gain direct and substantial benefits, either monetary or in kind, from sound local management.²⁹ Corruption and vested interests should be addressed by relevant laws and with an active role of the judiciary, with particular attention to avoid ‘sleights of hand’ by the State or to *de facto* evict people through zoning.³⁰

The *subsidiarity principle* states that planning matters should be handled by the least centralised authority/entity capable of addressing them effectively.³¹ Top-down

²⁸ I use in particular the classification proposed by UNECE (n 3) 11-2.

²⁹ De Wit, Verheye, ‘Land Use Planning for Sustainable Development’ in Verheye (ed.), *Land use, land cover and soil science* (vol. III, EOLSS Publishers 2003) 18-9.

³⁰ Lyster, ‘REDD+, transparency, participation and resource rights: the role of law’ (2011) *Env. Science & Pol.* 118, at 119; see also Ribot, Larson, ‘Reducing REDD risks: Affirmative policy on an uneven playing field’ (2012) 6(2) *Int. J. of the Commons* 249.

³¹ The principle has been most famously adopted to guide environmental policy at the EU level to justify and limit the action of the Union vis-à-vis Member States in areas of shared competence:

planning demands a high degree of capacity in government, an in-depth understanding of local trends, and a high degree of political consensus.³² Because these conditions are typically absent in tropical forests, decentralised forest management has gained ground in the last two decades. However, the allocation of competences must be based on a capacity assessment: whenever the scale of the objective being pursued cannot properly be addressed at the local level, the decision must be taken at higher levels. Box 6.2 shows why subsidiarity is a better guiding principle for planning than decentralisation.

The *integration principle* affirms that integration should be sought between levels of government (vertical or multi-level integration) and across policy sectors (horizontal or multi-sector integration) so as to promote coherence in decision-making and avoid conflicts within the administration.³³ Spatial planning can promote multi-level integration by articulating powers and responsibilities for land and natural resource use at various levels. With regards to multi-sector coordination, increased institutional coordination could be achieved by creating a high-level planning task force that enables a holistic and integrated approach to land resources management.

The *participation principle* maintains that opportunities to participate in planning decisions should extend beyond the normal democratic process, that transparency must be ensured by providing access to information, and that stakeholders must have the possibility to make formal objections on draft plans and appeal against planning decisions. Hoare notes how rigid planning instruments such as zoning have systematically failed to achieve their goals when employed at large scale because they do not muster popular support.³⁴ Planning can stimulate compliance using legal compulsion or economic incentives, but it is through participation that genuine

Treaty on the Functioning of the European Union (adopted 13 December 2007, entered into force 1 December 2009) (Consolidated version 2012) OJ C326, article 5.

³² Chomitz, *At loggerheads?: Agricultural Expansion, Poverty Reduction, and Environment in the Tropical Forests* (World Bank 2007) 171.

³³ In this sense, the integration principle is not to be confounded with the international principle of integration underpinning the concept of sustainable development, i.e. the idea that environmental considerations should be integrated with development policies in the early phases of decision-making.

³⁴ Hoare, *Divided Forests: towards fairer zoning of forest lands* (RFUK 2006).

support is generated. Mediation and conflict resolution are important parts of the exercise.³⁵

The *proportionality principle* strives to balance commitment with flexibility in spatial planning: on the one hand, the peremptoriness of spatial plans creates certainty for investors and is crucial to safeguard finite resources; on the other hand, flexibility is necessary to adapt to evolving economic, social and technological trends, which in turn ensures the relevance and resilience of outcomes.³⁶ Hall states that a good planning framework promotes policy learning, which is “a deliberate attempt to adjust the goals or techniques of policy in response to past experience and new information”.³⁷ He points out that centralised planning and technocratic modelling do not provide the flexibility needed for timely policy learning. This is consistent with Chomitz’ implicit suggestion that participatory planning is intrinsically adaptive and that priority should be given to building the conditions for the continued, participative revision of plans and their impacts.³⁸

The *precautionary principle* states that ‘where the potential damage caused by any development activity is serious or irreversible, the lack of certainty about impacts should not be used as a reason for inappropriate policy decisions or the failure to take corrective action.’³⁹ This principle has found recognition in key international instruments and is central to the development of environmental law. Precaution demands that when potential damage caused by a development activity identified in a spatial plan is serious or irreversible, lack of scientific certainty about impacts does not constitute a valid reason for allowing the activity. The principle is applied, *inter alia*, by carrying out strategic social and environmental assessments of spatial plans.⁴⁰

³⁵ Chomitz (n 32) 159-61.

³⁶ *Ibid* 31; Graham, Vignola, *REDD-plus and agriculture: A cross-sectoral approach to REDD-plus and implications for the poor* (ODI/CATIE 2011) 5.

³⁷ Hall, ‘Policy paradigms, social learning and the state: the case of economic policy-making in Britain’ (1993) 25(3) *Comparative Politics* 275, at 278.

³⁸ Chomitz (n 32) 159-61.

³⁹ *Ibid* 12.

⁴⁰ See, e.g., Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment (1985) OJ L175; Convention on Environmental Impact

Box 6.2: Pros and cons of decentralisation in forest planning and management

Some of the literature heralds decentralisation as the panacea for all management problems.⁴¹ Some ills associated with centralised planning are: the inequity and ineffectiveness of decisions taken for the people but not with the people; the increased sectoral interests and institutional competition of central governments; the insufficient capacity to gather, absorb and manage the necessary information at large scales; and the endemic institutional weakness and corruption in developing countries' central administrations. Considered a 'socialist' policy, centralised planning faced *ideological* challenges too:⁴² in the late 1980s decentralisation became a pillar of the neoliberal paradigm introduced by the Washington Consensus and spread to the developing world through changes in international aid policy.⁴³ Planning for the people became no longer acceptable and planning with the people proved too complex, so planning by the people became the rallying cry of many 'new' planners.⁴⁴ In forest policy, the transition to decentralised management promised a more equitable distribution of benefits and reduced poverty, the empowerment of marginalised groups, improved local accountability and sustainable management.⁴⁵

However, evidence challenges this idealised conception of decentralisation and suggests that subsidiarity is a better guiding principle. While the recognition of tenure has had a positive impact on development, in fact, the devolution of powers to local governments is not intrinsically more successful than central planning.⁴⁶ Some of the problems of decentralisation are: local residents lacking management capacity; corruption of local authorities and leaders;⁴⁷ nominal participation in land and resource management;⁴⁸ and a loss of the strategic dimension of planning which in some cases did not allow to 'see the forest for the trees'.⁴⁹

Assessment in a Transboundary Context (adopted 25 February 1991, entered into force 10 September 1997) 1989 UNTS 310; Council Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment (2001) OJ L197/30.

⁴¹ See Selfa, Endter-Wada, 'The politics of community-based conservation in natural resource management: a focus for international comparative analysis' (2008) 40 *Environment and Planning A* 962; De Wit and Verheye (n 29).

⁴² Couclelis (n 4) 1358.

⁴³ See Mosley, Harrigan Toye, *Aid and Power: The World Bank and Policy Based Lending* (vol. 1, Routledge 1995)

⁴⁴ Couclelis (n 4) 1358.

⁴⁵ Dalal-Clayton et al (n 18) 31; Chomitz (n 32) 171.

⁴⁶ Dalal-Clayton et al (n 18) 31-4.

⁴⁷ P. Shyamsundar, E. Araral, S. Weeraratne, *Devolution of Resource Rights, Poverty, and Natural Resource Management: A Review* (World Bank 2005) 39, 88; R. Briffault, 'Our localism: part I - The structure of local government law' (1990) 90(1) *Columbia Law Review* 1, at 105.

⁴⁸ Selfa and Endter-Wada (n 41) 958.

⁴⁹ Goodstadt, Partidário, 'Spatial Planning and Environmental Assessments', in Sukhdev (ed.), *TEEB: The Economics of Ecosystems and Biodiversity for Local and Regional Policy Makers* (TEEB 2010) 105-23.

The *prevention principle* postulates that plans should not only respond to environmental harm and degradation, but also aim to prevent it by regulating development activities within the environmental limits. This is based on the consideration that preventing environmental harm is cheaper, easier and safer than reacting to it. Finally, rural households whose livelihoods depend on the local environment should be allowed access to these resources or adequate compensation when this is not possible (*equity principle*).

The application of these principles is likely to make spatial planning more resilient, legitimate and effective. Moreover, if complemented by adequate incentives, good spatial planning is more likely to lead to outcomes that are environmentally, economically and socially sustainable.

6.2. Achieving sustainable landscape governance using spatial planning

6.2.1. Spatial planning as a technical exercise to tackle the drivers

Spatial planning can contribute to achieving sustainable landscape governance by identifying adequate responses to the drivers of forest loss at the most appropriate level. The stakes are clear: global expansion of rural land (for agricultural production), urban land (urbanisation), and land set aside for environmental goals (achieving REDD-plus/climate change mitigation and adaptation, reducing desertification, protecting biodiversity and providing other ecosystem services) are strictly interconnected trends that demand a better organisation of activities across the landscape. The importance of taking a holistic approach to landscape governance, and contextually to improve the geographical organisation of rural activities, is gaining recognition in climate change discussions as a valuable climate mitigation strategy. The Global Landscapes Forum Outcome Statement⁵⁰ recommended that REDD-plus negotiators “consider data from land-use change models that simulate and map future biodiversity loss, commodity production trends

⁵⁰ Global Landscapes Forum Outcome Statement (Warsaw, 4 December 2013) <www.landscapes.org/global-landscapes-forum-outcome-statement/#.UsF3_dJDt0g> Accessed 10 February 2014.

and change in land cover, to inform land-use planning and REDD-plus policies”. Spatial planning and REDD-plus can thus work hand in hand to promote sustainable landscape governance.

As a general observation, the drivers’ analysis highlights that, while forest degradation is a management problem, deforestation is largely a spatial problem influenced by the location of development as much as by the intensification of production. Graham and Vignola spell it out clearly by stating that “the location in which various policy options are implemented will also influence their effectiveness in achieving REDD-plus goals, and overall climate change mitigation. Landscape scale land-use planning will therefore be essential to underpin these decisions and identify areas that are appropriate for agricultural intensification, REDD-plus and other land uses”.⁵¹

(a) Segregative spatial planning

Spatial planning can help address both deforestation and degradation by using two techniques. First, segregative planning separates the natural environment from human land uses. Traditionally, it has accorded defensive protection to natural ecosystems via regulatory instruments such as zoning and strict conservation areas (‘planning for places’). Segregation of rural and urban uses, natural and built environments, and the designation of strictly protected areas, embodied and reinforced an idea of nature as external to society and opposed to development.⁵² This technique presents numerous problems. Ring-fencing parks and protected areas may provide ‘a signal to non-conservationists that they are free to develop unprotected areas with little environmental stewardship’,⁵³ which in the case of REDD-plus would trigger problems of ‘leakage’.⁵⁴ Moreover, segregative techniques often disregard local rights and preferences, breaching the equity principle.⁵⁵ Finally,

⁵¹ Graham and Vignola (n 36) 5.

⁵² Whatmore, Boucher, ‘Bargaining with Nature: The Discourse and Practice of ‘Environmental Planning Gain’ (1993) 18(2) *Transactions of the Institute of British Geographers* 166, at 169-70.

⁵³ Geisler, ‘Must Biodiversity Hot-Spots Be Social Not-Spots?: Win-Win Ecology as Sustainable Social Policy’ (2010) 4(1) *Consilience: The Journal of Sustainable Development* 119, at 120.

⁵⁴ See chapter 2 section 2.1.

⁵⁵ McNeely, ‘The future of national parks’ (1990) 32 *Environmental Education* 16.

by limiting the activities of local forest dwellers segregation also increases the opportunity cost of REDD-plus and creates security concerns.

Box 6.3: Segregative planning in Indonesia and Brazil

Indonesia has only recently begun to integrate environmental concerns into spatial planning. For instance, Spatial Planning Law 26/2007 requires the strategic environmental assessment of all spatial plans, including on carbon emissions.⁵⁶ Planning is also being used to achieve environmental objectives. Alongside the national moratorium on new palm oil concessions,⁵⁷ the World Resource Institute and Sekala are working with the Government of West Kalimantan on a project to relocate palm oil production on degraded land as part of their national REDD-plus effort. The project has identified nine suitable sites for a total of about 3.3 million hectares of degraded land suitable for palm oil expansion.⁵⁸

The state of Sumatra is experimenting with an ecosystem-based spatial plan that guides local and regional authorities in the allocation of palm oil and pulp and paper concessions. A technical programme mapped high-biodiversity and high-carbon habitats as well as the ongoing phenomena of erosion and degradation, so as to identify priorities for conservation, restoration and PES schemes including REDD-plus.⁵⁹ Recommendations were then provided to district governments that enjoy considerable autonomy in concluding spatial plans.

Similarly, Brazil has been using agro-ecological zoning since 2002 to concentrate farming on lands with better climatic, hydrological and soil conditions. In 2009 and 2010 zoning was extended to sugarcane and palm oil respectively and more emphasis was placed on ecological criteria.⁶⁰ Sugarcane cultivation is banned in the Amazon (including previously deforested areas), in the hydrological basin of the Pantanal wetland, and more generally in all areas with high conservation-value and/or high declivity.⁶¹ By contrast, the agro-ecological zoning of palm oil aims to incentivise the recovery of degraded land *within* the Amazon basin. Nationally protected and indigenous lands are also excluded. Agro-ecological zoning is implemented via a combination of financial incentives (particularly access to credit) and regulatory enforcement (i.e. a permit system for the use of local processing facilities).

However, there are cases in which segregation is the appropriate way forward (see box 6.3). Planning authorities can prevent development in remote and uninhabited regions or in areas with sparse population and a traditional economy of subsistence,

⁵⁶ Barano et al, *Integrating Ecosystem Services into Spatial Planning in Sumatra, Indonesia* (TEEB 2010) 2.

⁵⁷ See chapter 3 section 3.

⁵⁸ Gingold et al, *How to Identify Degraded Land for Sustainable Palm Oil in Indonesia* (WRI/Sekala 2012) 18.

⁵⁹ Barano et al (n 59) 3-4.

⁶⁰ Leopold, *Agroecological Zoning, Brazil* (TEEB 2010) 1.

⁶¹ *Ibid.*; Villar Belmonte, 'Brazil in Search of Sustainable Ethanol' *Tierramerica* (Montevideo 2011) <www.tierramerica.info/nota.php?lang=eng&idnews=834> Accessed 13 March 2012.

neither of which interferes with stakeholders' preferences. Here, measures that maintain the remoteness and inaccessibility of unthreatened forests - including protected areas and bans on infrastructure development – are likely to be successful. Another scenario is when large-scale deforestation has already occurred in neighbouring regions and there is mounting pressure from exogenous actors to expand into new forests. Because the threat is non-specific, non-immediate and exogenous, planning authorities can prevent the onset of drivers in such areas.

(b) Integrative spatial planning

The second technique is integration, a strategy that strives to reconcile the human and natural sub-systems by focusing on ecological forms of land use ('planning for people').⁶² Integrative spatial planning seeks to achieve a win-win situation whereby human needs are met while maintaining ecological functions.⁶³ Typical examples of integrated land uses are low-carbon agriculture, agroforestry, and sustainable forest management. Where human populations are already heavily reliant on local resources, integration promotes livelihood alternatives that maintain human well-being while contrasting the overexploitation of forests.⁶⁴ The spatial dimension of integration is evident, for instance, in those cases in which geographically-specific incentives are used to promote a transition to low-impact activities. Integrative planning is the better technique in inhabited forest landscapes while segregative planning can be used to preserve natural forest landscapes.

Integration is a more recent technique in environmental planning, with a number of international initiatives emerging in the last four decades (see box 6.4). Since the 1970s, agroforestry has been recognized as an effective way of expanding low-impact agriculture while providing habitats for biodiversity and maximising the flow of ecosystem services provided by forests.⁶⁵ Much of the over 400 million hectares of forest managed by local communities or indigenous peoples worldwide is

⁶² The point is made generally by Geisler (n 53).

⁶³ *Ibid*; also see Rosenzweig, *Win-Win Ecology: How the Earth's Species Can Survive in the Midst of Human Enterprise* (OUP 2003).

⁶⁴ DeFries et al (n 23) 1031-2.

⁶⁵ Geisler (n 53) 122.

subjected to sustainable multi-functional use,⁶⁶ and many forests that were long considered ‘untouched’ or ‘virgin’ are revealing signs of human intervention by indigenous communities, especially in the distribution of edible species.⁶⁷ Yet in their review of integrated conservation and development projects in tropical forest contexts, Blom et al note that win-win situations are exceedingly rare.⁶⁸ This is due, *inter alia*, to insufficient clarity in goals, institutional constraints and a failure to take into account local stakes and priorities.⁶⁹

Past attempts to promote integration were not always successful, and the degree to which environmental and development goals can be combined remains an open question.⁷⁰ The negotiation of trade-offs between conservation and development in the forest context is complicated by two factors: first, that the benefits of sustainable resource management are not immediately evident at local scale while costs are borne upfront (e.g. reduced economic output); second, that monetary compensation for lost development opportunities may be either insufficient or wrong in kind. Financial support from REDD-plus is certainly critical to herald a transition to sustainability, but payments must be reinvested into locally appropriate forms of development.⁷¹

⁶⁶ A study shows that 370 out of 420 million hectares under community control are community conserved areas. Molnar, Scherr, *Who conserves the world's forests?: Community driven strategies that protect forests and respect rights* (Forest Trends 2003) 12.

⁶⁷ Levis et al., ‘Historical Human Footprint on Modern Tree Species Composition in the Purus-Madeira Interfluvio, Central Amazonia’ (2012) 7(11) PLoS ONE 2.

⁶⁸ Blom, Sunderland, Murdiyarso, ‘Getting REDD to work locally: lessons learned from integrated conservation and development projects’ (2010) 13 Environmental Science & Policy 164.

⁶⁹ Agrawal, Gibson, ‘Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation’ (1999) 27(4) World Development 629; Garnett, Sayer, du Toit ‘Improving the Effectiveness of Interventions to Balance Conservation and Development: a Conceptual Framework’ (2007) 12(1) Ecology & Society 2.

⁷⁰ Barrett, Lee, McPeak, ‘Institutional arrangements for rural poverty reduction and resource conservation’ (2005) 33 World Development 193.

⁷¹ Molnar et al, *Community-based forest enterprises in tropical forest countries: status and potential*, (ITTO/RRI/Forest Trends 2007) <www.rightsandresources.org/documents/files/doc_3453.pdf> Accessed 11 February 2014.

Box 6.4: Integrative approaches to planning in international environmental policy

Limited forms of integration between resource use and nature conservation have been acknowledged since the early environmental treaties.⁷² However, it is only in the last four decades that integration was actively pursued at the planning level with mixed-used biosphere reserves, buffer zones, and Integrated Conservation and Development Projects.⁷³ The UNESCO Man and the Biosphere Programme is viewed by some as the gold standard for integrative environmental protection.⁷⁴ Biosphere Reserves served as experimental laboratories where conservation and human development are organised spatially.⁷⁵

Another interesting conservation concept is that of cultural parks and landscapes as markedly different from protected areas *qua* parks.⁷⁶ Cultural landscapes in Britain and France, for instance, support human settlement, farming, forestry, and commerce while emphasizing natural and cultural protection.⁷⁷ The 1972 World Heritage Convention provides for the conservation of sites of outstanding natural or cultural importance.⁷⁸

In the early 1990s, the International Union for the Conservation of Nature (IUCN) introduced two categories of protected areas that foster integration.⁷⁹ ‘Protected Landscapes’ are places where the interaction of people and nature over time has produced significant aesthetic, ecological, and/or culture value while still retaining high biodiversity. ‘Managed Resource Protected Areas’ are predominantly unmodified natural systems managed to combine long-term maintenance of biological diversity with the provision of a sustainable flow of natural products and services to meet community needs.⁸⁰ Section 6.4 will introduce some of the instruments that promote integrative planning at the more abstract level of policy principles.

(c) Spatial planning and the drivers

There are contexts in which integration is only second best to segregation and others where development is worth some environmental degradation. In some instances, tolerable land use restrictions yield great benefits in terms of biodiversity, such as in

⁷² See, e.g., the 1940 Western Hemisphere Convention and its graduated system of protected areas. Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere (adopted on 12 March 1940, entered into force 4 April 1942) 161 UNTS 193.

⁷³ *Ibid*; Blom et al (68).

⁷⁴ Geisler (n 53) 125.

⁷⁵ A concentric structure with one or several core areas that enjoy protected status, protected by buffer zones to maintain their ecosystem functionality, and surrounded by zones of cooperation that typically contain multifunctional human settlements; Chape, *United Nations list of protected area* (IUCN/UNEP 2003).

⁷⁶ Geisler (n 53) 123.

⁷⁷ *Ibid*.

⁷⁸ ‘World Heritage List’ (UNESCO) <<http://whc.unesco.org/en/list>> Accessed 11 February 2014.

⁷⁹ Dudley (n 9) 20-2.

⁸⁰ *Ibid*.

areas where even small disturbances could create serious damage. Conversely, in frontier regions where forests are already fragmented and degraded it could make sense to encourage industrial forest management which involves the plantation of commercially viable species. When it is possible to identify ‘small loss–big gain’ opportunities scientists speak of ‘nonlinear relationships’ between ecological responses and the area under protection.⁸¹

The choice of which technique should be used ultimately depends on how the driver has evolved in a particular geographical context. It is nevertheless possible to make some generic observations on the suitability of spatial planning techniques to tackle the drivers. Commercial ranching and intensive agriculture (for food or biofuels) are land uses incompatible with maintaining carbon stock and other ecological services provided by forests. These activities cannot be part of REDD-plus and must thus be located onto non-forested lands using a segregative planning approach. A typical example of spatial segregation is land swaps, the idea of exchanging concessions over carbon-dense lands with low-carbon lands⁸² and governments should become directly involved in such efforts using their land use information and planning capability.⁸³

Another interesting application of the segregative approach is in the context of the Land Sparing Hypothesis, the idea that pristine (and carbon rich) ecosystems can be preserved by boosting outputs on existing agricultural lands.⁸⁴ Investments in agricultural productivity increase the supply of produce which in turn lowers commodity prices and thus the incentive to clear more land to produce such commodities. However, this relationship assumes a fixed demand for agricultural products which is only applicable to cases in which individual small scale farmers

⁸¹ DeFries et al (n 23).

⁸² Claudell, *Developing Palm-oil Production On Degraded Land* (YEL/PanEco/ICRAF 2011) <www.ifc.org/wps/wcm/connect/adf573004a682a88852cfd998895a12/BACP-PanEco.Developing-degradedland-report.pdf?MOD=AJPERES> Accessed 11 February 2014.

⁸³ Graham and Vignola (n 36) 5.

⁸⁴ Cohn et al, *The Viability of Cattle Ranching Intensification in Brazil as a Strategy to Spare Land and Mitigate Greenhouse Gas Emissions* (CCAFS 2011); Green et al, ‘Farming and the fate of wild nature’ (2005) 307(5709) *Science* 550.

are isolated from markets and are thus unable to sell additional produce.⁸⁵ More commonly, intensification increases deforestation thanks to higher profits, greater access to capital, increased access to international commodity markets and product diversification (“No Land Sparing Hypothesis”).⁸⁶ In order to work, the Land Sparing Hypothesis should be complemented by regulatory measures that limit the spatial expansion of production on carbon-dense ecosystems. Such measures can have various degrees of peremptoriness: from normative instruments that outlaw certain kinds of developments in forest regions, to economic incentives that make production in forest regions less convenient (such as geographically-explicit fiscal incentives and the selective provision of infrastructures that improve access to markets in non-forest areas). Policies that combine incentives with spatial regulations are regularly used by central governments for social and economic purposes, particularly to drive investments to less well-off regions, and similar strategies could be used to reduce forest emissions.

Spatial planning can also limit the impact of industrial logging, most typically by refusing to grant concessions for timber and pulp extraction in primary forests. New concessions could be awarded on secondary and degraded forests, imposing a management regime based on restoration/reforestation and sustainable forest management (including by planting native commercial species). Planning should also seek to identify degraded areas at the forest margins that, if opportunely restored and commercially exploited, could work as ‘protective belts’ for the intact areas. Similarly to agricultural development, these planning measures can be realised through regulation, incentives or a combination of both.

When deforestation is caused by small-scale activities such as farming and wood extraction, integrative planning approaches are most effective. Sustainable practices can be promoted through a participatory process that limits tenure rights through local land use plans. Various kinds of incentives, from PES and carbon payments to subsidised credit for sustainable activities can be used to promote compliance with such plans. Investments in improved agricultural practices, agroforestry, sustainable

⁸⁵ Ewers et al, ‘Do increases in agricultural yield spare land for nature?’ (2009) 15(7) *Global Change Biology* 1716.

⁸⁶ Graham and Vignola (n 36) 4.

forest management or eco-efficient wood-burning stoves reduce human impacts by lessening local reliance on unsustainable activities and by facilitating the transition to a low-carbon local economy. In Tanzania, devolution of land use management responsibilities to local communities (which began in the 1980s) is organised through multi-level spatial planning: the negotiation of the plan, the demarcation of boundaries and the registration of tenure rights was done at the village level, but they were informed by a broad vision and science-based regulations decided at the higher levels.⁸⁷ Almost half of the national budget for environmental protection is allocated to spatial planning, with encouraging results: in all areas where the process was completed at village level, deforestation decreased by 90 percent.⁸⁸

The expansion of surface transport infrastructures (roads, rail-tracks and ports) is a good proxy for the spatial distribution of development activities within forest areas. Because of their positive socio-economic impact, and because they are a visible sign of government action, transport infrastructures are the cornerstone of development strategies in most developing nations and enjoy the full support of multilateral financial institutions. Infrastructures can reduce pressure on forests by improving production efficiency in non-forest areas, or they can facilitate economic expansion across the territory and into remote forest areas.⁸⁹

The coming decades will see an unprecedented expansion of surface transport infrastructure in developing nations. For instance, the Initiative for the Integration of the Regional Infrastructure of South America (IIRSA) is realising two new highways in the Amazon and a waterway that connects the town of Manta in coastal Ecuador with the city of Manaus in the heart of the Brazilian Amazon. The future rate of deforestation will hence be affected by whether or not public authorities try to minimise the impact of these new infrastructures on forests. In particular, roads grant access to undisturbed forest areas facilitating illegal colonization and studies

⁸⁷ Ylhaisi, 'Sustainable land privatisation involving participatory land use planning in rural areas: An example from Tanzania' (2011) 1 Land Tenure Journal 91, at 99-100.

⁸⁸ *Ibid* 107.

⁸⁹ Rademaekers et al, *Study on the evolution of some deforestation drivers and their potential impacts on the costs of an avoiding deforestation scheme* (ECORYS 2011) 84-90.

demonstrate that almost all new deforestation and forest degradation occur within 50 kilometres of a road.⁹⁰

Given such significant environmental impact, Lawrence and Balford suggest that “a collaborative, global zoning exercise is needed to identify where road building or improvement should be a priority, where it should be restricted and where existing roads should be closed”.⁹¹ Developing countries can carry out an impact assessment of the social, economic and environmental impact of major road projects in forest areas,⁹² taking climate change considerations into account consistent with the proviso of UNFCCC article 4(1)(f). Planners could consider the use of alternative infrastructures such as railways and fluvial transport that do not provide the same level of accessibility. Even if roads are eventually built, adequate planning could reduce carbon impacts by establishing protected areas along the road, which would provide a credible legal deterrent for human expansion into the forest.

Spatial planning could lead to a direct reduction of forest emissions in all cases where a low-carbon solution comes at little extra cost. Yet even when relocating development projects or achieving sustainable resource use is costly, costs may still be lower than trying to implement REDD-plus without previous planning since the fragmentation of land use decisions at the individual level would not help the identification of cost-effective alternative to business-as-usual emissions.

6.2.2. Planning as a political tool for improved decision-making

The second way in which spatial planning can lead to sustainable landscape governance is by mainstreaming participatory processes in land use decisions at

⁹⁰ Laurance, Goosem, Laurance, ‘Impacts of roads and linear clearings on tropical forests’ (2009) 24 *Trends Ecol Evol* 659, at 662.

⁹¹ Laurance, Balmford, ‘A global map for road building’ (2013) 308(495) *Nature* 308, at 309.

⁹² Environmental Impact Assessment (EIA), Strategic Environmental Assessment (SEA) and Strategic Environmental and Social Assessment (SESA) seek to identify, predict, evaluate and mitigate the environmental and social impacts of development projects or programmes, weighing their risks and opportunities and considering alternative options. These tools are best used to influence the development of land use plans and have been instrumental to the transformation of land use planning into a tool for sustainable development; see Goodstadt and Partidário (n 49) 116; Ahmed, Sanchez-Triana (eds), *Strategic Environmental Assessment for Policies: An Instrument for Good Governance* (World Bank 2008) 3; Jones et al, *Strategic Environmental Assessment of Land Use Plans: An International Evaluation* (Earthscan 2005).

multiple levels. Agrawal notes that “where groups are very small and compete for a share in local resources, their performance in protecting resources may improve if government policies create institutional incentives for smaller groups to join together.”⁹³ Planning can thus be used as a focal point to mainstream the participation and democratic accountability principles in land use decisions, including REDD-plus. As seen earlier, the REDD-plus safeguards require broad stakeholder participation in the readiness process. Looking forward, however, there is much less certainty that the participatory structures and processes established in the preparatory phases will be maintained to ensure that stakeholders continue to have a say on land use decisions.

Spatial planning does not, in itself, guarantee continued stakeholder participation either. To the contrary, the participatory process may be limited to the initial phases of plan-making and, once a decision has been taken, an element of rigidity may prevent further influence.⁹⁴ However, recent experiences in developed countries demonstrate that spatial plans can indeed be flexible and adaptive if adequate regulatory and institutional frameworks are in place.⁹⁵ Plans may have to be reviewed due to changing circumstances (e.g. a major natural event changes the geography of a locality making certain land uses impossible), ineffectiveness (e.g. it sets environmental protection goals that unduly restrict resource use rights and triggers illegal activities) or conflicts. Recognising that plans are flexible instruments implies that the planning process itself should be flexible and adaptive.

There is nothing intrinsically averse to continued participation in spatial planning: it depends on the balance struck between certainty and adaptiveness, i.e. whether, to what extent and under what conditions amendments to the plan are allowed. There may be institutionalised opportunities to renegotiate parts of the plan at certain intervals, e.g. in the context of annual or biennial reviews of implementation. The

⁹³ Agrawal, ‘Small is Beautiful, but Is Larger Better?’ in Gibson, McKean, Ostrom, *People and Forests: Communities, Institutions and Governance* (MIT Press 2000) 79.

⁹⁴ Camacho, ‘Mustering the Missing Voices: A Collaborative Model for Fostering Equality, Community Involvement and Adaptive Planning in Land Use Decisions’ (2005) 24(3) *Stan. Envtl. L. J.* 269, at 270.

⁹⁵ Halleuxa, Marcinczakb, van der Krabben, ‘The adaptive efficiency of land use planning measured by the control of urban sprawl: the cases of the Netherlands, Belgium and Poland’ (2012) 29(4) *Land Use Policy* 887.

plan's level of detail is also important to determine flexibility and adaptability: spatial plans that regulate in great detail individual uses will likely be more difficult to conclude and less prone to be re-discussed.

Spatial planning can thus be set up as a tool to channel participation in land use decisions. It would provide a permanent institutional structure that can be used by stakeholders on a regular basis to receive information about the plan, provide further inputs, or file complaints. This institutional structure would facilitate communication across levels of government, and between stakeholders and the public sector using a nested system.

A clear division of responsibilities is key to ensure transparency and accountability. The national level sets the strategic vision and the legal framework. The strategic vision defines the goals and principles of planning which guide 'the disparate actions of government departments, the private sector and communities'.⁹⁶ REDD-plus may influence this vision and provide resources for its realisation using incentives and disincentives in a macro-economic framework.⁹⁷ Central governments also establish the legal framework for planning. Legislation must clarify roles and responsibilities of government agencies at all levels, the requirements for collaboration among local authorities and for public participation, the mechanism for the supervision of lower level authorities, and the methods by which incentives and sanctions are applied.⁹⁸ The government could run national consultations on certain parts of the proposed legislation, or it could seek the input of established stakeholder groups (e.g. federation of agribusiness industries, federations of local and indigenous communities, coalitions of national and international NGOs and so forth) but participation is generally limited at this level.

Regional and State governments interpret and adapt national policies to regional conditions.⁹⁹ The regional spatial plan is a more comprehensive and detailed document which organises the distribution of development, redevelopment and investment, the coordination of infrastructure and the preservation of environmental

⁹⁶ UNECE (n 3) 20.

⁹⁷ De Wit and Verheye (n 29) 12.

⁹⁸ UNECE (n 3) 15.

⁹⁹ *Ibid* 21.

resources.¹⁰⁰ This is the ideal level for the spatial identification of natural areas that deserve particular protection, and for putting in place measures that address large-scale commercial drivers. Segregative planning is typically decided at this level (box 6.3). Duany et al state that the regional plan must map the region's natural resources, the existing protected natural and rural areas, and a hierarchy of the areas with development priorities.¹⁰¹ Once these sectors are mapped, governments at every level can use incentives and coordinate policies to prioritise development.

Smaller jurisdictional units such as districts or provinces may further link local priorities to the higher levels, providing a rapid response to grassroots needs as well as information and technical support.¹⁰² Landscape governance arrangements are established at this level. Participation may consist of consultations and face-to-face meetings between local stakeholders, civil society organisations, local politicians and business leaders. District plans generally include the regulation of tenure rights over natural resources, enforcement provisions and, in decentralised contexts, service delivery (e.g. water, schools, infrastructures).

Finally, local land use plans detail the tenure restrictions and the distribution of the relative penalties and incentives in a well-defined area. This can be done on community lands or across administrative boundaries (e.g. in the case of national parks or large-scale community-managed forests).¹⁰³ Local plans may be relevant in the context of REDD-plus projects or programmes that allow for some development within a protected carbon sink, e.g. if they permit changing land use over a portion of the territory. Participation at this level is at its highest, with communities actively crafting and implementing plans through appropriate local processes.

There is a risk that planning bureaux could be controlled by powerful vested interests that would exercise undue influence on final land use decisions. Corruption in land

¹⁰⁰ *Ibid.*

¹⁰¹ Duany, Speck, Lydon, *The Smart Growth Manual* (McGraw Hill 2010) section 2.1.

¹⁰² De Wit and Verheye (n 29) 24.

¹⁰³ *Ibid* 13-14.

use planning has been thoroughly examined in various developing countries,¹⁰⁴ and can take the form of rent-seeking from land conversion and re-zoning,¹⁰⁵ acquisition of land through state capture or by investors having received insider information, abuse of office or straightforward bribery.¹⁰⁶ It is therefore important to discuss the planning process at the international level, not only to identify capacity gaps but also to foster good governance principles of transparency and accountability. Secondly, land use plans should be – as much as possible – implemented voluntarily and with adequate incentives, so that local stakeholders are not unduly affected by external decisions (particularly those whose livelihoods depend on resource use).¹⁰⁷ Moreover, alternative dispute resolution mechanisms and *ad hoc* judicial mechanisms such as the land tribunals discussed in the context of tenure¹⁰⁸ should be established to solve disputes arising in the participative development and implementation of spatial plans.

By combining an analytical element (technical plans) and a social element (negotiated decisions) at early stages of decision-making, participatory spatial planning carries on the best practices introduced in the readiness process' Strategic Environmental and Social Assessment to the subsequent phases of REDD-plus.¹⁰⁹ The same process can also be used to assess social and environmental impacts during REDD-plus implementation, as required in the readiness documents.¹¹⁰

¹⁰⁴ See, e.g., Rudiarto, *Corruption on Land Use Planning and Land Registration-Cadastre Process: An Analysis of Causes and Consequences* (LAP 2010); Government of Tanzania, *The incidences of corruption in the land sector* (Prevention of Corruption Bureau 2005).

¹⁰⁵ Rent-seeking is an attempt to obtain economic profit by manipulating the social or political environment in which economic activities occur, rather than by creating new wealth. In this case, for instance, changes from agricultural to residential zoning increase the value of land with no correspondent change in land productivity and this can fuel speculation.

¹⁰⁶ Arial, Fagan, Zimmermann, *Corruption in the Land Sector* (FAO/Transparency International 2011) <www.fao.org/docrep/014/am943e/am943e00.pdf> Accessed 11 February 2014.

¹⁰⁷ See, e.g., the US experience with incentive zoning, Camacho (n 94) 19-20.

¹⁰⁸ Chapter 5 section 2.6.

¹⁰⁹ FCPF/UN-REDD, *Readiness Preparation Proposal, Template Version 6, for Country Use and Public Comment* (World Bank 2011) 14

¹¹⁰ *Ibid*, component 2d, 44-7.

6.3. Benefits of spatial planning for REDD-plus

On top of the direct effect on the drivers, spatial planning also has the potential to facilitate the implementation of the REDD-plus programme at various scales. Below is a non-exhaustive list of the benefits spatial planning can have on REDD-plus.

(i) Generate political support

As seen earlier, REDD-plus competes with other legitimate policy objectives.¹¹¹ Spatial planning sets out to achieve a balanced trade-off between these objectives in a geographically-explicit manner, giving “a common direction to policies and programmes, as well as a strategic assessment of what is desirable and what is possible in various contexts”.¹¹² Political support is achieved through an open, transparent and inclusive process which provides a platform for stakeholders to voice their preferences and concerns.¹¹³ REDD-plus can be targeted to compensate those stakeholders that would lose out disproportionately under a more climate-friendly land and forest management regime.

(ii) Identify barriers for implementation and generate investor confidence

Spatial plans agreed through inclusive multi-stakeholder processes can create a stable and secure business environment unearthing latent conflicts of interest and combating illegality. Illegal activities, in fact, thrive in the uncertainty, which is reduced not only by securing tenure rights but also by formalising land use destinations at landscape scale. Following tenure regularisation efforts, participative planning establishes what activities are and are not allowed in a certain area and then publicises it, facilitating the exposure of illegal uses.¹¹⁴ A side effect of the increased legal certainty provided by plans is that investors would have greater confidence that carbon contracts signed with individual right-holders will not be subsequently declared unlawful or that they will not be easily expropriated by government-

¹¹¹ Campbell et al, *Climate Change and Agriculture: A Scoping Report* (Meridian Institute 2011) 18.

¹¹² UNECE (n 3) 1.

¹¹³ Graham and Vignola (n 36) 6.

¹¹⁴ *Ibid.*

initiated development.¹¹⁵ The combination of undisputed tenure rights and a spatial plan supported by local stakeholders reduces the risk of carbon investments, hence lowering costs and limiting profits for investors.

(iii) Provide accurate information on drivers and reference levels

An integral part of the planning process is the systematic gathering of information regarding an area's geography, natural status, socio-economic conditions and historical land use trend. The spatial representation and combination of this information has important consequences for REDD-plus processes. For instance, mapping tenure rights, locating the drivers of land use change, and the SEA of spatial plans could help identify the entry points for maximising the effectiveness of REDD-plus actions. The geographical representation of social, economic and environmental data could provide a basis for the coordination and integration of policy responses to the drivers of forest loss, facilitate the pricing of the short-term cost of a transition to a sustainable land management framework, and help set more accurate reference emission levels. Socio-environmental inventorying would gather information useful for monitoring safeguards, perhaps allowing the setting of a baseline for non-carbon benefits of REDD-plus. More broadly, it would also improve emergency responses, taxation assessments and other areas of planning (for the economy, social services, infrastructure etc.).¹¹⁶

(iv) Coordinate and integrate national policies across sectors

The absence of institutional coordination across government sectors results in inconsistent policies and programmes. As governments struggle to balance development and environmental objectives, it is not uncommon to note conflicting sectoral policies that simultaneously promote forest protection *and* the expansion of activities that drive forest loss. Although not unique to these sectors, the fragmentation of responsibilities among resource-management agencies (also

¹¹⁵ In the latter case, major investors would probably consider that plans could provide a legal basis to at least claim compensation in case of regulatory expropriation or any U-turn in government policy that directly affects their investment. Legal recourse could be sought in national courts or in some cases, after local remedies are extinguished, via international investment arbitrations.

¹¹⁶ See Deininger et al, *Innovation in Land Rights Recognition, Administration, and Governance* (World Bank 2010).

referred to as the ‘silo effect’)¹¹⁷ is particularly damaging in case of forests because of the extensive cross-sectoral implications discussed in chapter 2. The inability to overcome fragmentation thus reduces the effectiveness of government action and could severely undermine the success of REDD-plus. Mitchell points out that trying to achieve policy coordination and integration via government re-organisation is futile because ‘when restructuring organizations, boundaries or edges are moved, not removed’.¹¹⁸ He therefore recommends setting up mechanisms or processes that address the problems created by fragmentation.¹¹⁹ Spatial planning can be one such mechanism because it embraces complexity instead of trying to reduce it,¹²⁰ facilitating the revision of inconsistent policies and programmes and their prioritisation in a geographical dimension. Moreover, it can mainstream multi-sector coordination by providing a process to align decisions from various government agencies with a common strategic vision and attempting to “create synergies between policies (win-win situations)”.¹²¹ Table 5 sums up the laws and policies that influence forest loss in six developing countries, including those that support it and those that clash with its aim.

(v) Coordinate and integrate national policies across levels of government

As seen above, institutional coordination also has a vertical dimension. Poor coordination across government levels is exemplified by the case of Indonesia, a large federal country which over the last decade has devolved legislative, executive and budgetary powers to regional and district authorities. The country’s unclear governance structure, partly caused by piecemeal and inconsistent constitutional amendments, failed to lay out the relationship and division of powers between levels

¹¹⁷ Silos are physical structures designed to ensure the integrity of a crop while in storage by keeping it separate from other crops, pests, or other disturbances. Mitchell, ‘Integrated water resource management, institutional arrangements, and land-use planning’ (2005) 37 *Environment and Planning A* 1335, at 1340-1.

¹¹⁸ *Ibid* 1341.

¹¹⁹ *Ibid*.

¹²⁰ Rayner, Buck, Katila, *Embracing Complexity: Meeting the Challenges of International Forest Governance* (IUFRO 2011) 137.

¹²¹ Geerlings, Shifan, Stead, *Transition Towards Sustainable Mobility: The Role of Instruments, Individuals and Institutions* (Ashgate 2012) 20.

thus creating legal and administrative confusion.¹²² The central government has recently tried to repatriate some of the devolved powers facing resistance from local bureaucrats. A comprehensive evaluation of the powers and responsibilities at various government levels on matters related to land and forest use, and their rationalisation using the subsidiarity principle, can be facilitated through a nested spatial planning structure such as that exemplified in section 6.2.2. Consistency across levels of government reduces opportunity and implementation costs and can generate further synergies in implementation by pooling REDD-plus funds with other resources.

(vi) Create synergies with other environmental programmes

Planning can also facilitate coordination and synergies in the implementation of international obligations.¹²³ Multilateral environmental agreements have chosen a regime-specific approach which has caused a proliferation of parallel and overlapping national action plans.¹²⁴ Action plans identify national options and priorities for implementing international obligations. By contrast, spatial plans transpose policies into a spatial dimension, providing a common language that facilitates cooperation between regimes. It can provide information on local circumstances and preferences and it can be used to channel environmental obligations into local development models.¹²⁵ This would allow the pooling of financial and technical resources from various international and national sources towards actions that can achieve multiple and overlapping policy objectives including climate adaptation and mitigation, biodiversity conservation, livelihood improvement. Parrotta et al note that the integration of REDD-plus strategies into existing planning tools “may help to reduce the overall costs and build a more coherent REDD-plus policy framework”, and cite the example of biodiversity as an

¹²² Luttrell et al, ‘The political context of REDD+ in Indonesia: Constituencies for change’ (2014) 35 *Environmental Science and Policy* 68, at 70.

¹²³ On the problem of fragmentation in international environmental law see Najam, Papa, Taiyab, *Global Environmental Governance: A Reform Agenda* (IISD 2006).

¹²⁴ See chapter 4 section 3.1.

¹²⁵ Graham and Vignola (n 36) 6.

area of policy which would benefit from spatial analysis.¹²⁶ Such synergies would greatly improve effective treaty implementation, avoiding duplication of efforts within and across international regimes.

(vii) Facilitate tenure regularisation and protection

The underlying tension between husbanding local forest values and protecting public-good values of forests is clear. Advocates of tenure security emphasise unfettered individual and group rights,¹²⁷ whereas advocates of spatial planning, especially in its centralised form, bestow extensive powers on governments to regulate land use for public purposes.¹²⁸ Reconciling the trade-offs between local rights and collective responsibilities is a major challenge for natural resource governance.¹²⁹ Yet observers often overemphasise the different ideological background of tenure security and spatial planning.

Radical interpretations are very uncommon nowadays and unhelpful to this discussion: a free-market approach based on targeted economic incentives will be ineffective without supporting regulatory frameworks while a central planning approach would require an unrealistic level of capacity to enforce regulations in remote forest areas without the support of the regulated stakeholders. The bottom line is that both elements must be part of the governance mix.¹³⁰ There is potential to cultivate synergies between property rights and planning, for instance by adding a tenure regularisation objective to local planning processes or by setting up participation mechanisms that can serve both purposes. Synergies can be created at higher decision-making levels as well if the dual objective of securing tenure rights

¹²⁶ Parrotta, Wildburger, Mansourian, *Understanding Relationships between Biodiversity, Carbon, Forests and People: The Key to Achieving REDD+ Objectives* (IUFRO 2012) 130.

¹²⁷ Deininger et al (n 116) 3.

¹²⁸ This can be interpreted as either a situation in which land owners could do anything that is not explicitly forbidden by planning regulations or that they can only do what is expressly allowed by a public authority; *ibid*.

¹²⁹ Sayer, Bullb, Elliott, 'Mediating Forest Transitions: 'Grand Design' or 'Muddling Through' (2008) 6(4) *Conservation and Society* 320, at 322.

¹³⁰ Indeed, they are two sides of the same coin in so far tenure security underpins spatial planning (otherwise no entity would be endowed with the right to decide over the use of land) and without collectively agreed restrictions some tenure rights could not be fully enjoyed (because they would be affected by other people's recklessness). A typical example is the enjoyment of tenure rights over a river that flows within a private property, which would be affected by reckless use of water of water upstream or, for that matter, unsustainable land use in the watershed catchment.

and improving the spatial organisation of activities (and the consequent restriction of rights) are integrated in policies and programmes. For instance, tenure regularisation can be set in national strategies, and specific programmes can be included in regional strategies and implemented at the district or province level at the initial stages of the planning process.

Table 5: Drivers of deforestation and policies hindering and enabling change

Country	Drivers of forest loss	Policies and operational tools that clash with REDD-plus aims	Policies that could support REDD-plus	Bodies and policy milestones associated with REDD-plus
Brazil	Ranching; agriculture (large and small scale); infrastructure; selective logging; mining; fire	Rural credit for cattle-ranching and infrastructure development (roads and dams); poor enforcement of tenure rules	Forest Code conservation requirement on private land; improved enforcement of land use policies; economic and ecological zoning; efforts to certify producer legality commercial chains (beef, soy); land regularisation process and demarcation of indigenous land; real-time monitoring of deforestation	(2008) Brazil Amazon Fund and National Plan on Climate Change (2010) NAMA includes REDD; (2011) Mato Grosso state bill on REDD; (2011) National REDD-plus Strategy formulation
Cameroon	Agriculture (medium and small scale, subsistence); logging; mining	Currency devaluation boosting logging exports; infrastructure (roads, rail and dams); mining and large-scale agriculture projects	Law No. 2011/08 on Guidelines for Territorial Planning and Sustainable Development in Cameroon	(2009): REDD Cameroon pilot steering committee; (2009) National Observatory on Climate Change; (2011) UN-REDD Programme; (2012) R-PP submitted
Indonesia	Agriculture (large scale including forest plantations such as oil palm, small scale, subsistence); logging; mining	Tax dependence on forest and mining; tax breaks for forest products, farming produce, pulp and paper; mining permits in protected areas; fiscal and non-fiscal concessions for food estate and energy estate development; biofuel development; land allocation for oil palm plantations	(1990) Law on Conservation of Natural Resources and Ecosystems; (1994) Law on Ratification of UNFCCC; (2009) Law on Environmental Protection and Management; (2011) Master Plan for Acceleration and Expansion of Economic Development for 2011–2025; (2012) Ministry of Forestry Regulation on Guidelines on Natural Environmental Services Business	(2007) Indonesian Forest Climate Alliance; (2008) National Climate Change Council; (2009) Indonesian Climate Change Trust Fund; Ministry of Forestry Regulation 68/2008 on REDD; (2009) Ministry of Forestry Decree 36 Carbon Sequestration Licences; UN-REDD; (2010) Letter of Intent with Norway; REDD-plus Task Force; (2011) Presidential Regulations No. 61 and 71 on GHG Emission Inventory and National Action Plan for Reducing GHG Emissions; (2010) REDD-plus Task Force; REDD-plus pilot province (Central

				Kalimantan); national strategy and public consultation; (2011) moratorium on new licences in natural primary forests; R-PP
Nepal	Agriculture; illegal logging; resettlement; infrastructure; fire	Agricultural modernisation and associated infrastructure development; hydropower development; local road construction; mining of sand, boulders and stone; lack of land use policy	Subsidies for kerosene, biogas, micro-hydro, solar and improved cooking stoves; community forestry programme	(2009) Establishment of REDD cell and working group; R-PP finalised; UN-REDD Programme; (2010) proposed amendment to Forestry Act; (2011) R-PP grant signed
PNG	Commercial logging; subsistence agriculture; clearing for plantations; mining; forest fires	Low and unequal levels of development and reliance on forestry sector to provide basic services (roads, health, education) in rural areas; Forest Clearance Authorities granted as part of Special Agriculture and Business Leases; National Agriculture Development Plan (2007–2016) promoting expansion of palm oil industry	Customary land ownership; informed consent for Forest Management Agreements (but not enforced); Forestry and Climate Change Framework for Action 2009–2015; 2010 Climate-Compatible Development Strategy (carbon neutrality by 2050); PNG Development Strategic Plan 2010–2030	(2008) R-PIN submission; (2009) UN-REDD Programme; REDD-plus MRV; (2010) National Climate Change Committee and Technical Working Groups
Vietnam	Agriculture; infrastructure; logging; fire; shifting cultivation; migration	Infrastructure (roads and hydropower); self-sufficiency in food and cash crop development (rubber and coffee); National Socio-Economic Development Plan; credit schemes to alleviate poverty; land allocation; economic development as main goal of Forest Development Strategy	Decision 380 and Decree 99; payment for forest environmental services including benefit-sharing regulation; Law on Forest Protection and Development 2004 and Land Law 2003; legal foundation for carbon rights	(2009) National REDD network and technical working groups, UN-REDD; (2010) National Climate Change Strategy and National REDD programme; (2011) National MRV framework endorsed; R-PP resubmitted

Source: Brockhuhs et al 2013¹³¹

¹³¹ Brockhaus, Di Gregorio, Mardiah, ‘Governing the design of national REDD+: An analysis of the power of agency’ (2013) (in press) FORPOL <DOI: <http://dx.doi.org/10.1016/j.forpol.2013.07.003>>.

6.4. Avenues to improve spatial planning in developing countries

Spatial planning has a long history in international environmental law. Principles 14 and 15 of the 1972 UN Stockholm Declaration describe ‘rational planning’ as an essential tool for reconciling conflicts between development and environmental protection, and to obtain maximum social, economic and environmental benefits.¹³² The 1980 World Conservation Strategy dedicates a chapter to the integration of environmental protection and development through planning and rational use allocation.¹³³ The 1982 World Charter for Nature emphasises planning of social and economic development activities (paragraph 6) and particularly “the [planned] allocation of areas of the earth to various uses” (paragraph 9). The non-legally binding 1992 Forest principles underline the importance of ‘rational land-use policies’ in reducing deforestation.¹³⁴ The UNCCD promotes the definition of ‘roles and responsibilities of central government and local authorities within the framework of a land use planning policy’.¹³⁵

Agenda 21¹³⁶ stresses that physical and land use planning promote the “allocation of land to the uses that provide the greatest sustainable benefits”¹³⁷ and it emphasises its ability to promote the integration of environmental, social and economic concerns in natural resource management,¹³⁸ particularly to combat deforestation.¹³⁹ The document also stresses the need to strengthen technological capacity and

¹³² Declaration of the United Nations Conference on the Human Environment (adopted 16 June 1972) 11 ILM 1416.

¹³³ IUCN-UNEP-WWF, *World Conservation Strategy: Living Resource Conservation for Sustainable Development* (IUCN 1980).

¹³⁴ Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests (adopted 14 August 1992) 31 ILM 881.

¹³⁵ United Nations Convention to Combat Desertification (adopted on 17 June 1994, entered into force 26 December 1996) 1954 UNTS 3 (UNCCD), article 3(c)(i).

¹³⁶ Report of the UN Conference on Environment and Development (13 June 1992) UN Doc A/CONF.151/26 (Vol. I-III).

¹³⁷ *Ibid* paragraph 5.

¹³⁸ *Ibid* paragraph 7.

¹³⁹ *Ibid* paragraph 11.

institutions¹⁴⁰ with the support of international organizations.¹⁴¹ Consequently,¹⁴² the FAO has developed land use databases, a methodology for classifying and mapping agro-ecological zones, a land evaluation framework, and methodologies for matching climate and crop environmental requirements.¹⁴³ Thanks to this work, practical understanding of planning processes in developing countries has improved considerably¹⁴⁴ and participative approaches to planning have been advocated instead of the current top-down approach.¹⁴⁵

Spatial planning has also been used extensively at the regional level. In 1970 the Council of Europe launched a Conference of Ministers responsible for Spatial/Regional Planning (CEMAT) which made environmental concerns central to its agenda from the beginning. CEMAT has contributed to shaping European territorial policy through awareness raising, exchange of best practices and the promotion of planning principles that mainstream concepts of sustainability in development policy.¹⁴⁶ The 1979 Bern Convention required Parties to take into account the conservation of habitats and wild fauna and flora in their ‘planning and development policies’.¹⁴⁷ At the EU level the 1999 European Spatial Development Perspective¹⁴⁸ promotes integration of environmental considerations in spatial plans

¹⁴⁰ *Ibid* paragraphs 17 and 18.

¹⁴¹ *Ibid* paragraph 6. This is to be read together with the provisions of chapter 28, titled ‘Local Authorities’ Initiatives in Support of Agenda 21’, which launches the idea of a ‘local Agenda 21’ laying the basis for channelling international support to local communities and local authorities in charge of planning.

¹⁴² FAO was chosen as task manager for four Agenda 21’s chapters: planning and management of land resources (chapter 10), combating deforestation (chapter 11), sustainable mountain development (chapter 13), and sustainable agriculture and rural development (chapter 14).

¹⁴³ FAO, *Planning for sustainable use of land resources: Towards a new approach* (FAO 1995) 5.

¹⁴⁴ FAO, *Guidelines for land use planning* (FAO 1993).

¹⁴⁵ FAO (n 149); FAO, *The Future of our land: facing the challenge, Guidelines for integrated planning for sustainable management of land resources* (FAO 1999).

¹⁴⁶ See, e.g., Council of Europe Recommendation No R (84) 2 of the Committee of Ministers to Member States on the European Regional/Spatial Planning Charter (25 January 1984). Environmental protection and sustainability are still central to CEMAT’s mandate, as remarked in the recent Moscow Declaration: CEMAT, *Future Challenges: Sustainable Territorial Development of the European Continent in a Changing World* (2010) 15 CEMAT (2010) Final 8E.

¹⁴⁷ Convention on the Conservation of European Wildlife and Natural Habitats (adopted 19 September 1979, entered into force 1 June 1982) ETS 104.

¹⁴⁸ The complete title of the document approved by the Informal Council of Ministers responsible for spatial planning is in fact: Commission, *ESDP: European Spatial Development Perspective: Towards*

as a basis for sustainable development, although it has been contested that the spatial discourse of economic competitiveness is emerging at the expense of social and environmental interests.¹⁴⁹ EU conservation initiatives also made conspicuous use of spatial planning. Furthering an approach introduced with the 1979 Wild Birds Directive,¹⁵⁰ the 1992 Habitats Directive¹⁵¹ requires EU Member States to designate a network of protected areas within their territory and to review their spatial planning and development policies accordingly.¹⁵²

The appreciation of spatial planning to achieve sustainable development also permeates the 1968 African Convention on the Conservation of Nature and Natural Resources and its revised 2003 version.¹⁵³ In particular, the 2003 text affirms that any decision regarding the conservation of species and their habitats should be taken ‘within the framework of land-use planning and of sustainable development’¹⁵⁴ and with emphasis on community participation in land use planning and management.¹⁵⁵ However, the 1968 Convention had little impact due to its lack of monitoring and enforcement capacity, while the 2003 Convention is yet to enter into force.

Despite its use in environmental treaties, spatial planning has been underutilised in developing countries. In addition to weak political commitment, Pierce et al¹⁵⁶ list three challenges to the affirmation of planning as a mainstream tool for sustainable

Balanced and Sustainable Development of the Territory of the European Union (Office for Official Publications of the European Communities 1999).

¹⁴⁹ Richardson, Jensen, ‘Discourses of mobility and polycentric development: A contested view of European spatial planning’ (2000) 8(4) *European Planning Studies* 503.

¹⁵⁰ Council Directive 2009/147/EC of 30 November 2009 on the conservation of wild birds (2010) OJ L20/7.

¹⁵¹ Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (1992) OJ L206/7.

¹⁵² *Ibid*, article 10. The network, called Natura 2000, includes the Special Protection Areas introduced by the Wild Birds Directive and new Special Areas of Conservation and it now includes over 26,000 sites covering roughly 750,000 sq. Km or 18 percent of the EU’s land area. ‘Nature and Biodiversity (European Commission 2014) <http://ec.europa.eu/environment/nature/index_en.htm> Accessed 12 February 2014.

¹⁵³ IUCN, *An Introduction to the African Convention on the Conservation of Nature and Natural Resources* (IUCN 2004) 5.

¹⁵⁴ African Convention on the Conservation of Nature and Natural Resources (adopted on 11 July 2003, not yet in force) E-001395, Article IX.

¹⁵⁵ *Ibid* article XVII.

¹⁵⁶ Pierce et al, ‘Systematic conservation planning products for land-use planning: Interpretation for implementation’ (2005) 125 *Biological Conservation* 441, at 442.

development: (i) a lack of awareness, among local governments, of the importance of planning to protect priority areas; (ii) a disparity in objectives and, therefore, in structure and content between the scientific products generated by conservation assessments, and those required for land-use planning, and (iii) lack of local government capacity to integrate conservation into planning products.

Given such shortcomings, there is a great margin to improve spatial planning practices in developing countries under the UNFCCC so as to achieve mitigation and adaptation objectives. The protection of land ecosystems was readily singled out as a strategic option in climate adaptation, following the realisation that “vulnerability to climate change can be exacerbated by other stresses, including the loss of habitats and natural resources, reduced ecosystem services, and land degradation”.¹⁵⁷ The UNFCCC imposes an obligation on all parties to ‘cooperate in preparing for adaptation to the impacts of climate change; develop and elaborate appropriate and integrated plans for [...] water resources and agriculture, and for the protection and rehabilitation of areas [...] affected by drought and desertification, as well as floods’.¹⁵⁸ The Kyoto Protocol goes even further noting that ‘adaptation technologies and methods for improving spatial planning would improve adaptation to climate change’.¹⁵⁹

While countries have begun to integrate climate adaptation goals into spatial planning,¹⁶⁰ land-use and spatial planning are still underutilised in climate change mitigation. However, REDD-plus countries are slowly beginning to embrace the idea of employing spatial planning, albeit in a piecemeal fashion. For instance, the Democratic Republic of Congo has begun a standardisation process of different zoning methods in 2008 as part of its readiness preparation efforts, and adopted

¹⁵⁷ World Bank, *Convenient Solutions to an Inconvenient Truth: Ecosystem-based Approaches to Climate Change* (World Bank 2009) 47.

¹⁵⁸ United Nations Framework Convention on Climate Change (adopted in Rio de Janeiro on 9 May 1992, entered into force 31 March 1994) 1771 UNTS I-30822, article 4(e).

¹⁵⁹ Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entered into force 16 February 2005) 37 ILM 22, article 10(b)(i).

¹⁶⁰ LGA, *A Climate of Change: Final report of the LGA Climate Change Commission* (Local Governments Association 2007) 26
<<http://webarchive.nationalarchives.gov.uk/20080527101153/http://www.lga.gov.uk/lga/aio/20631>>
Accessed 11 February 2014

methodological guidance to participatory zoning in national forest lands.¹⁶¹ The R-PP has then identified capacity gaps and requested support to build an institutional framework for national planning and a comprehensive Land use and Development Plan to guide the National REDD-plus Strategy.¹⁶² Indonesia's Forest Investment Plan of 2012 dedicates a work stream to community land use planning with the aim of producing "micro spatial plans or land use plans".¹⁶³ It also notes how the effectiveness of larger-scale spatial plans was hampered by uncertain tenure and aims to address the two issues in conjunction and requests supports for institutional capacity building for spatial planning.¹⁶⁴ Similarly, the 2012 Burkina Faso Investment Plan dedicates support to developing sustainable land use plans in rural areas, which address the drivers of forest loss consistent with its National Land use Development Policy of 2007.¹⁶⁵ The BioCarbon Fund for Sustainable Forest Landscapes launched at Warsaw¹⁶⁶ also supports land use planning as tool to create enabling environments that change the way land-use decisions are made, and to achieve sustainable landscape governance.¹⁶⁷

Spatial planning's limited contribution to sustainable landscape governance in developing countries leaves room for improvement that can be harnessed with a relatively small injection of technical and financial capital. A survey conducted by the Global Planners Network¹⁶⁸ lists the major challenges facing spatial planners in developing countries. Some problems are intrinsic to balancing development with social and environmental outcomes, which is particularly acute in fast-growing developing countries. Then there are extra-sectoral problems of difficult solution,

¹⁶¹ Government of the Democratic Republic of Congo, *Readiness Plan for REDD 2010-2012* (Ministry of Environment 2010) 57.

¹⁶² *Ibid* 58.

¹⁶³ Government of Indonesia, Investment Plan for Indonesia (2012) FIP/SC.9/6, pp. iv and 36.

¹⁶⁴ *Ibid* 32-5.

¹⁶⁵ Burkina Faso, Forest Investment Programme (FIP – Burkina Faso) (Ministry of Environment and Sustainable Development 2012) Doc FIP/SC.9/4, pp. 12, 16, 28.

¹⁶⁶ See chapter 4 section 2.3.

¹⁶⁷ World Bank, BioCarbon Fund, Initiative for Sustainable Forest Landscapes (World Bank 2013) <www.worldbank.org/content/dam/Worldbank/document/SDN/BioCF_ISFL_Flyer.pdf> Accessed 10 February 2014.

¹⁶⁸ French, Natarajan, *Self-diagnostic Assessments of the Capacity for Planning Worldwide, Key Findings Report* (GPN/RPI 2008).

such as corruption and crime, and scarce awareness of environmental issues. Finally, spatial planning also has internal problems of scarce institutional, professional and financial capacity,¹⁶⁹ often due to the lack of planning culture within the government. The survey highlights that despite the growing economic capacity of many developing and emerging countries, the gap in spatial planning capacity compared to developed countries is not shrinking.¹⁷⁰

Wollenberg et al note how the implementation of spatial plans in Indonesia is hampered by poor technical capacity (inaccurate or unavailable maps), institutional problems (poor vertical and horizontal coordination), legal confusion, a lack of bureaucratic capacity and financial resources, and the influence of vested interests.¹⁷¹

Dalal-Clayton remarks how decentralisation has shifted some of these concerns to district and local authorities, which have been devolved a host of functions formerly under the responsibility of central governments without a commensurate devolution of powers and resources.¹⁷² Goodstadt and Partidário stress that lack of technical resources is a particularly challenging problem in developing countries where there is abundance of informal settlements and a widespread lack of tenure clarity.¹⁷³ They also note that there is 'a shortage of planners who have an understanding of the role of the ecosystem services approach in effective planning'.¹⁷⁴ Capacity issues are relevant at the stage of plan-formation (e.g. due to a lack of adequate information) and even more so at the stage of delivery, especially if a top-down approach is followed.

The limited use and impact of spatial planning is also caused by the uncertain status enjoyed by the discipline within the administration. Kilgore et al show that even in rich developing countries forest planning suffers a lack of resources, and of political

¹⁶⁹ Another survey shows that this is particularly acute in Latin America: French, Natarajan, *Some Perceptions of Latin America Planning Priorities: An analysis of responses to the Self-Diagnostic Assessment of the Capacity for Planning Worldwide* (GPN/RPI 2009).

¹⁷⁰ French and Natarajan (n 168) 6.

¹⁷¹ Wollenberg et al, 'Interactive land use planning in Indonesian rain-forest landscapes: reconnecting plans to practice' (2008) 14(1) *Ecology & Society* 35, at 36.

¹⁷² Dalal-Clayton et al (n 18) 39.

¹⁷³ Goodstadt and Partidário (n 49) 110.

¹⁷⁴ *Ibid* 108.

and stakeholder support.¹⁷⁵ Burby and May suggest that this may be due to the fact that governments are reluctant to use planning to implement international environmental obligations since this entails commitment to certain policies that they are not prepared to take.¹⁷⁶ As spatial planning is influenced by power dynamics, the lack of consensus for embedding planning into development and decision making is due to the opposition of powerful vested interests; by contrast, where spatial planning is used the government is often keen to retain the power and interprets it as a top-down instrument which gives a territorial application to centralised policies, with little regard for local realities, demands and aspirations. In Indonesia, despite the wild decentralisation of the post-Suharto years, the central government still uses spatial planning to assert its control over a vast and fragmented territory and the effectiveness of the exercise is “compromised by a history of centralised sector-based planning, a lack of information about existing forest and land characteristics, and weak stakeholder input”.¹⁷⁷

REDD-plus can contribute to improve spatial planning practices in several ways. The most obvious one is by bridging current under-investment. Establishing an accurate planning system from the local to the national level implies upfront and ongoing costs to acquire information, build geographic databases, train the personnel, purchase equipment, set up organisational structures, disseminate information and set up participatory processes. Participation is slow and costly, requiring government staff on the ground over long periods of time. International financial institutions could support the development of inclusive multi-stakeholder planning systems as a readiness effort.¹⁷⁸ Brazil is the clearest example of how investments in data availability, monitoring (from both satellite imaging and ground patrols) and bureaucratic capacity are the backbones of good land and forest administration

¹⁷⁵ Kilgore, Hibbard, Ellefson, ‘Comprehensive strategic planning for the use and management of forest resources: The experiences of state governments in the United States’ (2006) 9 FORPOL 42.

¹⁷⁶ Burby, May, ‘Intergovernmental environmental planning: Addressing the commitment conundrum’ (1998) 41(1) *Journal of Environmental Planning and Management* 95.

¹⁷⁷ Sève, *A review of forestry sector policy issues in Indonesia* (Jakarta 1999), cited in Wollenberg et al (n 171).

¹⁷⁸ Plainly it would not be possible to support land use planning with results-based payments, as it would be virtually impossible to demonstrate that improved planning practices resulted in additional emissions reductions.

systems. Most developing countries, however, lack technical capacity and need international support to acquire accurate geographical data and establish efficient administrative processes.¹⁷⁹ Even in relatively wealthy countries such as Tanzania, planning is hampered by a lack of technical and financial support from the government and by the absence of qualified planners at the local level.¹⁸⁰

A detailed mapping of forest areas, including protected areas, concessions, and other public, private and customary tenure arrangements is the natural starting point to improve the management of forest regions. Coordinating support at the multilateral level could create synergies when gathering remote sensing data (on forest cover, soils, crop potential, climate and so forth) and improve cooperation in transboundary contexts. Indonesia has embarked in a national-level exercise to create an indicative map of the areas covered under the palm oil moratorium funded by Norway.¹⁸¹ The map contains information on land cover, status and existing plantation licences but has struggled to integrate information on tenure.¹⁸² The two-year delay in completing the map shows the practical and political complexity of the process, and the importance of international support to persuade a government to deal with such complex matters.

REDD-plus could also raise awareness about the advantages of using participative approaches. Concrete steps that could follow are the review of the legal framework for planning and the establishment or improvement of dedicated institutional arrangements at multiple levels of government. For instance, Indonesia's national REDD-plus strategy proposes to strengthen the National Spatial Planning

¹⁷⁹ Dalal-Clayton et al (n 18); Deininger et al (n 116); French and Natarajan (n 168).

¹⁸⁰ Ylhaisi, 'Sustainable privatisation involving participatory land use planning in rural areas: An example from Tanzania' (2011) 1(10) Land Tenure Journal 92, at 107.

¹⁸¹ For more information on the moratorium map, see the webpage of the Monitoring on Moratorium Working Group of the Indonesian REDD+ Task Force: 'Monitoring on Moratorium Working Group of the Indonesian REDD+ Task Force' (GoI, 2013) <www.satgasreddplus.org/en/redd-task-force/redd-task-force-profile/monitoring-moratorium> Accessed 13 February 2014.

¹⁸² Central Kalimantan's REDD+ Regional Commission, *REDD+ Regional Strategy (Strada) Central Kalimantan Province* (2013) <[www.gcfttaskforce.org/documents/Central%20Kalimantan%20REDD+%20Strategy%20\(unofficial%20English%20translation\).pdf](http://www.gcfttaskforce.org/documents/Central%20Kalimantan%20REDD+%20Strategy%20(unofficial%20English%20translation).pdf)> Accessed 11 February 2014.

Coordination Board through revision of the relevant legislation.¹⁸³ The objectives of this legal and institutional update are clear from the above discussion: to make planning a process that promotes multi-sectoral integration, multi-level coordination, and multi-stakeholder participation in decision making; to use it as a tool to disseminate information within the government and to increase the effectiveness of policies and programmes; and to give clarity and legal force to plans that are properly monitored and enforced.

Finally, REDD-plus can set best practices and quality standards for spatial planning according to agreed principles, such as those listed above. Such principles could be incorporated as non-binding guidelines for promoting sustainable landscape governance and endorsed by the COP. Developing countries would then be expected to gradually internalise and apply them using the information and technical support received from other countries and international organisations. International task forces of experts and capacity-building programmes could be established at the multilateral level, and fora could be used to share information and best practices on spatial planning for climate change mitigation and adaptation. All in all, existing legislative and operational initiatives that are either part of REDD-plus or complementary to it, including expert fora and high-level events, provide enough room to develop guidelines and expertise that would allow raising the political profile of the discipline and create national capacity for its successful application.

This chapter has shown that spatial planning can introduce an element of collective rationality in landscape governance which rebalances the otherwise fragmented nature of incentive-based environmental policies. It does so by contributing technical information when locating development activities, and by establishing an institutional focal point for the continued participation of stakeholders in land use decisions. This collective decision-making process addresses the drivers of forest loss and can generate political support, reduce opportunity costs, and increase investors' confidence in REDD-plus.

¹⁸³ Indonesian REDD+ Task Force, REDD+ National Strategy (Government of Indonesia 2012) <www.satgasreddplus.org> Accessed 10 February 2014.

However this is only possible if the planning process is transparent and participative, has the institutional structure to achieve multi-level coordination, and the power to influence multi-sector harmonisation of policies; if plans are built bottom-up, giving priority to local needs and circumstances and securing broad support; if conflicts are identified and mediated at early stages, using non-confrontational means where possible but also increasing access to justice; and if the plans themselves are flexible and adaptive, the authorities responsible for their implementation fully accountable.

Some developing countries are beginning to appreciate the potential contribution of spatial planning to REDD-plus, but there does not seem to be widespread awareness that such contribution will only be realised if planning follows the above principles. Continued and more targeted international support through technical cooperation, financial assistance and information sharing is thus needed to raise the profile of the discipline and to ensure that best practices are implemented consistently throughout the developing world. Only when good-quality plans are in place incentives can be consistently used to achieve clearly defined, contextualised management goals.

Managing REDD-plus incentives: the national financial infrastructure

“Right now what we understand is a sort of CDM-like offset system because we know the private sector has been involved in the CDM [...] it would be very sad if private-sector investments in REDD would be limited to the purchase of carbon offset credits.”

Benoit Bosquet, World Bank¹

The third policy catalyst for domestic governance reform is the national financial infrastructure. The rules and institutions set up to distribute REDD-plus finance are crucial to support the shift to sustainable landscape governance envisaged in the planning process. Section 7.1 analyses the convenience of establishing a national governance structure dedicated to the management of REDD-plus finance, explaining why this is primarily a national issue and why this matter can neither be left to existing institutions nor to the market. Section 7.2 suggests that developing nations are showing a strong preference for a centralised infrastructure based on national funds. Section 7.3 argues that this is not a bad option as long as the fund meets certain requirements. Finally, section 7.4 presents a possible model for the stepwise development of a composite fund that meets such requirements.

¹ Volcovici, ‘A Slow Start for the Carbon Credit Market’ *New York Times* (24 July 2011).

7.1. Sharing the burden: governing REDD-plus finance at the national and international levels

Finance is unquestionably the most debated subject in international REDD-plus discussions, and yet there is relatively little understanding of the mechanisms governing its distribution. Echoing the Doha Decision on REDD-plus,² the last COP in Warsaw still had to identify “ways and means to transfer payments for results-based actions [and] the provision of financial resources for alternative approaches”.³ One of the reasons why discussions on financial delivery are still at the starting block is that up until 2012 they were addressed jointly with the as yet unresolved issue of finance generation.⁴ These two phases of the funding process are clearly distinct: the generation of funds takes place at the international level whereas delivery happens both internationally (finance is delivered to developing countries) and within developing countries (finance is distributed locally to achieve emission reductions).

The realisation that financial delivery is largely a developing country affair was slow to come: influenced by the experience with the Kyoto Protocol’s flexibility mechanisms, observers and decision-makers set out to build a detailed international rulebook for transnational, project-level REDD-plus finance.⁵ This keenness to regulate financial matters in great detail, however, was frustrated by the problems discussed in chapter 3.⁶ Disagreements, rather than a decision to build flexibility into the system, meant that international guidance on finance has remained vague so far, allowing countries to experiment with a range of different financial instruments.⁷ It is, of course, still possible that pressures to create a uniform international financial

² UNFCCC COP Decision 1/CP.18 (2012) UN Doc FCCC/CP/2012/8/Add.1, paragraph 29.

³ UNFCCC COP Decision 9/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1, paragraph 20.

⁴ The distinction is also hardly noticeable in early country proposals, a summary of which was presented by Parker et al: Parker et al, *The Little REDD+ Book: A guide to governmental and non-governmental proposals for reducing emissions from deforestation and degradation* (GCP 2008).

⁵ Such pressures came primarily from the private sector, because rules are the enemy of uncertainty and risk. This observation reinforces the argument that one of the precepts of neoliberalism - that markets thrive with deregulation – is indeed a misrepresentation.

⁶ Such as the methodological, legal and political problems affecting market-based REDD-plus discussed in chapter 3 section 3.

⁷ *Infra*, section 7.2.2.

mechanism will spill over to the national level, *de facto* causing a trickle-down effect of financial rules and procedures⁸ - but many signs point to the opposite direction.

Developing countries reasserted control over finance consistent with “country-driven” approaches that “respect national sovereignty”.⁹ The Warsaw Decision on institutions recognises the need for the coordinated management of different funding sources through existing international institutions or alternative governance arrangements in the short term and possibly using a dedicated institutional entity in the future.¹⁰ Yet, until such institution or coordinated mechanism is in place, it proposes that the integrated management of different funding sources, each carrying its own operational requirements, be undertaken by domestic governments.¹¹ Parties are therefore invited to designate “a national entity or focal point to serve as a liaison with the secretariat and relevant bodies of the Convention,” which can in turn “nominate their entities to obtain and receive results-based payments.”¹²

The establishment of the national focal point and national financial entities is born out of practical concerns for the efficiency and expediency of international financial transfers and a productive cooperation across levels of decision-making. However, it also reinforces the idea that programme implementation must follow a coherent national policy (as set out in the national REDD-plus strategy or action plan) and avoid sectoral fragmentation.

REDD-plus thus needs two parallel organisational structures and rules for financial management: one at the international level, decided directly by the UNFCCC COP

⁸ Specifically, the main concern is that the rhetoric on national approaches is contradicted by the persistent influence of international processes that remain “siloeed” into a CDM-like vision (with marginal modifications as in the case of the nested approach), and distorted by narratives of results-based payments as the antidote to inefficient government-based management. These influences may *de facto* restrict the choice of financial instruments in developing countries either because these are stigmatised by donor countries or because they are simply incompatible with the mainstream view of REDD-plus by developed countries.

⁹ UNFCCC COP Decision 1/CP.16 (2010) UN Doc FCCC/CP/2010/7/Add.1, Appendix I, paragraph 1(c).

¹⁰ UNFCCC COP Decision 10/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1, paragraphs 4-9.

¹¹ *Ibid* paragraph 2.

¹² *Ibid* paragraph 2.

as part of the broader financial architecture of the post-Kyoto treaty;¹³ the other at the national level, established under the authority of, and working closely with the national government. The latter is here called national financial infrastructure (hereinafter “NFI”), which denotes the *system of rules, decisions, procedures and structures underpinning the management of REDD-plus financial resources within a national jurisdiction*. The concept embraces both centralised (fund-based, government-controlled) and decentralised (market-based, investor-controlled) approaches to domestic delivery of REDD-plus finance.¹⁴ For instance, if REDD-plus is funded by transnational private investments, the NFI would be concerned with domestic rules governing the inflow of such capital, crediting of emission reductions, sharing of benefits, taxation of profits and similar issues. If, by contrast, REDD-plus money is delivered through government schemes, the NFI would include the institutions established for and/or tasked with the management of international resources, the rules governing the internal management of finance, and their distribution to stakeholders. If, as it is most likely, REDD-plus will be financed through a variety of approaches, the NFI will have to accommodate different delivery methods.

By definition, the absence of an integrated nation-wide infrastructure for the management of REDD-plus finance increases risks of fragmentation, inefficiency and inefficacy in so far as uncoordinated financing mechanisms operate

¹³ It falls within the international domain to: define the level below which emission reductions are compensated (baseline or reference level); decide the modalities through which funds are raised from multilateral, bilateral and subnational sources; establish whether there should be a supervision of financial transfers through COP-control institutions (e.g. the Green Climate Fund) or whether funds can be transferred over the counter; detail to what extent financial transfers must be results-based and indeed offset-based; standardise the monitoring, verification and reporting of emission reductions and the condition for crediting offsets; certify the integrity of carbon credits and limit the quota of offsets that can be used in developed countries (so as to avoid flooding); prevent leakage and permanence problems; regulate private sector engagement (i.e. the modalities of participation of subnational entities) and protect investments; set up mechanisms to stabilise the international price of carbon so as to give financial stability to the trading system. International actors will also retain supervisory and advisory functions over national financial delivery through the usual tools of external support for national processes seen in the previous chapters. Some guidance and supervision will be needed to ensure that policies and measures are compatible with the financial architecture for finance generation. Best practices could be established with regards to transparency and accountability in financial management, technical assistance and sharing of information can be useful for States to develop their own national financial infrastructure.

¹⁴ Hence it must not be confused with the rules governing the distribution of climate finance between countries discussed in chapter 3 section 2.3.

simultaneously and overlap with each other, failing to achieve economies of scale and reduce transaction and implementation costs, or even competing with each other. Indeed, as funds will be raised using both market and non-market mechanisms and from “a wide variety of sources”¹⁵ the coordination and harmonisation of financial inflows can only happen at the national level.

It is worth asking whether it is beneficial to have a REDD-specific framework. It could be argued that the creation of dedicated financial rules is unnecessary or even counterproductive because it competes with functions that are normally performed by existing financial institutions (i.e. the disbursement of liquidity in the form of credit or grants), creating confusion and over-regulation. In fact, this scenario seems to contradict the principles of vertical and horizontal integration previously discussed.¹⁶

However, the NFI provides new and additional services that complement existing ones: the uniqueness and complexity of the programme’s funding process require *ad hoc* procedures, rules and institutions in order to deal with complexity. Several examples can be presented. First, these mechanisms must be tailored to the needs of donors and investors so as to establish a direct link between the resources invested and the emission reductions generated, a task for which development credit and other standard financial services are ill-fitted. Second, financial institutions (perhaps with the exception of some rural development banks) may have difficulties when operating outside the logics of profit, which may be needed under REDD-plus to balance out financial concerns with social and environmental objectives. Third, REDD-plus funding often targets people with low literacy, no formal rights to land and scarce integration in a market economy that would not qualify to receive funding under the standard risk assessments of banks and other commercial organisations. Fourth, the complexity of REDD-plus funding requires arrangements that could hardly be managed by standard financial institutions: for instance, incentives may be provided as physical or human capital as opposed to just financial; funds should be distributed in different forms and under different conditions to accommodate the needs of beneficiaries, and so forth.

¹⁵ UNFCCC COP Decision 2/CP.17 (2011) UN Doc FCCC/CP/2011/9/Add.1, paragraphs 65-66.

¹⁶ See chapter 6 section 1.2.

The sheer amount of decision-making enshrined in REDD-plus is likely to stretch financial institutions beyond their capacity. A recent World Bank assessment of financial infrastructures in developing nations found that the institutions and norms regulating contract enforcement (linked to the efficiency of the judicial system), access to credit (in terms of coverage of the public, information and secure rights of borrowers and lenders) and investor protection (in terms of disclosure and liability) in developing countries are generally underdeveloped.¹⁷ Rural credit systems are particularly deficient.¹⁸

The view that REDD-plus needs a dedicated infrastructure for financial delivery is shared by virtually all actors engaged in the process (multilateral institutions, donor and recipient countries, local stakeholders, civil society and the private sector), and it has recently begun to converge towards a particular arrangement: the national REDD-plus fund.

7.2. The rise of the national fund

If the drivers of REDD-plus can only be addressed using a cross-sectoral landscape approach, it is axiomatic that the NFI must bring various financial arrangements into a coordinated national effort. This may start with REDD-plus but should be able to progressively integrate finance from other sources, including other international instruments and the private sector.

A report on REDD-plus finance notes that “strong institutions will be needed to govern fund mobilisation, allocation and disbursement...to demonstrate the effectiveness, responsiveness, environmental integrity, and fiduciary accountability necessary to gain the confidence of investors, civil society and other stakeholders.”¹⁹

The national focal point and the financial entities to be established pursuant to the Warsaw Decision on coordination of support demonstrate that Parties envisage

¹⁷ Brook, Stein, *Financial Infrastructure: Building Access Through Transparent and Stable Financial Systems* (World Bank 2009) 1-3.

¹⁸ Thillairajah, *Development of Rural Financial Markets in Sub-Saharan Africa* (World Bank 1994) 25-7; Trivelli, Venero, *Agricultural Development Banking: Lessons from Latin America?* (Instituto de Estudios Peruanos 2007) 2.

¹⁹ Global Witness, *Building Confidence in REDD: Monitoring Beyond Carbon* (GW 2009) 31

country-level financial management, but maintain options open for the development of a NFI. It is up to the domestic stakeholders to decide whether the organisational structure of the NFI should be centralised or polycentric, and the level of autonomy from the government.

The simplest form of financial infrastructure capable of combining funding from various sources is the national REDD-plus fund. This can be used as a platform for the continuous replenishment of finance (revolving fund) from governmental, non-governmental and private sector sources (multi-donor fund). The literature distinguishes between two types of national funds: independent funds and funds under State administration.²⁰ The degree to which the trust fund operates independently from the host government determines many of its characteristics.

A fund under State administration is placed under the control of a Ministry or Agency; its management could be integrated in the country's bureaucracy (i.e. it could be run by a government office) or it could be run by an *ad hoc* committee that is in turn controlled by government representatives. In the first case, the fund would likely use existing disbursement channels and procedures whilst in the latter it may have its own structure, agreed with donors, but decisions on funding allocation would in both cases be taken by the government with little outside input.

An example of State-administered fund is the Climate Change Trust Fund (ICCTF), established in September 2009 by the Government of Indonesia to support the country's transition to low carbon growth.²¹ The ICCTF receives international support from various international sources and channels it to land-based mitigation, energy and adaptation. Funding is managed exclusively by government agencies – although non-governmental actors can be involved in implementation. A slightly less centralised fund that is still controlled by the government is the Guyana REDD-plus Investment Fund (GRIF). Established in 2009 pursuant to a Memorandum of

²⁰ Vatn, Angelsen, 'Options for national REDD+ architectures', in Angelsen (Ed.), *Realising REDD+: National Strategy and Policy Options* (CIFOR 2009) 57.

²¹ Grüning et al, *Case Study: The Indonesia Climate Change Trust Fund* (Frankfurt School of Finance & Management 2012) <<http://fs-unep-centre.org/publications/case-study-indonesia-climate-change-trust-fund-icctf>> Accessed 12 February 2014

Understanding between the Governments of Guyana and Norway,²² the GRIF benefits from the secretarial support of the World Bank and it is governed by a Steering Committee chaired by the Government of Guyana and with members from the contributors, but in which civil society and the private sector are only invited as observers. The GRIF is open to multiple donors, but so far Norway is the only contributor with an initial donation of approximately US\$150 million to be delivered in the form of results-based payments.²³

By contrast, independent funds are governed by a multi-stakeholder committee and have little or no formal connection with the government. Conservation trust funds, which developing nations have considerable experience with, are a typical example.²⁴ For instance, the Peruvian Trust Fund for National Parks and Protected Areas (PROFONANPE) is a private not-for-profit organisation established in 1992 to improve the management of Peru's protected areas and surrounding buffer zones. PROFONANPE has so far raised over US\$130 million raised from multiple international sources, both governmental and non-governmental.²⁵ It is governed by a Steering Council with four government representatives, two members from environmental NGOs, a private sector representative and a representative from international aid agencies. However, the Warsaw Decision on institutions *de facto* excludes the use of independent funds to deliver REDD-plus finance because all financial entities are to be established under the authority of the national focal point.²⁶

²² Memorandum of Understanding between the Government of the Cooperative Republic of Guyana and the Government of the Kingdom of Norway regarding Cooperation on Issues related to the Fight against Climate Change, the Protection of Biodiversity and the Enhancement of Sustainable Development (9 November 2009) <www.regjeringen.no/upload/MD/Vedlegg/Internasjonalt/miljosamarbeid_utviklingsland/mou_norway_guyana.pdf> Accessed 12 February 2014

²³ Starbroek News 'As of June 2013, No New GRIF deposits since 2011' Starbroek News (9 June 2013) <www.starbroeknews.com/2013/news/stories/06/09/no-new-grif-deposits-since-2011> Accessed 14 February 2014

²⁴ Spergel, Wells, 'Conservation trust funds as a model for REDD+ national financing' in Angelsen (n 18) 75.

²⁵ Conway, Pritchard, *Lowering Emissions in Asia's Forests (LEAF): International experience with REDD+ and national forest funds* (USAID 2013) 43-54.

²⁶ UNFCCC (n 10) paragraph 2.

Several intermediate solutions have been developed. Funding decisions could be made directly by the government but with full disclosure to donors or they could be delegated to a multi-stakeholder board, but one whose composition and deliberative procedures would be highly influenced by the host state administration.²⁷ This is the case in the Democratic Republic of Congo (DRC), where the Government has created a National REDD-plus Fund pursuant to the approval of the national R-PP by UN-REDD and FCPF (November 2012). The Fund aims to “mobilise and combine various funding sources (public and private, national and international) to meet the national objective of REDD-plus, as defined in the National REDD-plus Strategy”.²⁸ Although created and guided by the government, the DRC National REDD-plus Fund will be independent from the public administration and managed according to internationally approved fiduciary rules.²⁹

Alternatively, fund management could be entrusted to a national development bank, an independent institution whose operation is usually aligned with government policies and over which the administration retains some control. This solution would increase political legitimacy and also benefit from the financial expertise of the host institution. Brazil’s Amazon Fund is a prominent example of such arrangement. Established in 2008 following a pledge to reduce deforestation in the Amazon by 70 percent by 2018, the Amazon Fund is managed by the National Bank of Economic and Social Development, which is independent but marginally influenced by the federal government. Critics claim that this ambiguous governance arrangement has resulted in poor coordination with other sectoral policies which bear influence on deforestation.³⁰ Yet a number of important activities have been financed in different

²⁷ Vatn and Angelsen (n 20) 69.

²⁸ Protocole d’Accord entre le Gouvernement de la Republique Democratique du Congo et le Programme des Nations Unies pour le Developpement Portant Fourniture des Services de Gestion et Autres Services d’Appui au Fonds National REDD+ de la RDC (DRC-UN-REDD) (27 November 2012) article 1 <<http://mptf.undp.org/factsheet/fund/3CD00>> Accessed 12 February 2014.

²⁹ Aquino, Rakotorianina, ‘REDD Funds Management in DRC: The Creation of the National REDD+ Fund’ 2013 (Unpublished), cited in Aquino, Guay, ‘Implementing REDD+ in the Democratic Republic of Congo: An analysis of the emerging national REDD+ governance structure’ (2013) (36) FORPOL 71.

³⁰ Zadek, Forstater, Polacow, *The Amazon Fund: Radical Simplicity and Bold Ambition – Insights for building national institutions for low carbon development* (AVINA 2010) <www.zadek.net/wp-content/uploads/2010/08/Amazon-Fund_Radical-Simplicity-and-Bold-Ambition_Working-Paper_November2010.pdf> Accessed 12 February 2014 .

sectors and at various scales,³¹ amongst which the support for agro-ecological zoning initiatives and for the Forest Conservation Grant Fund stands out.³² The Amazon Fund is supported by a handful of countries, and particularly through the US\$1 billion pledged by Norway. Although incentives are disbursed based on results (deforestation reduction),³³ the closure of the Amazon Fund to carbon markets is a consequence of Brazil's rejection of offset-based mitigation.³⁴

Other countries have developed national fund structures to manage ecosystem service payments (e.g. Costa Rica³⁵ and Mexico³⁶), and also supranational ones (such as the Congo Basin Forest Fund).³⁷ The rising popularity of national environmental funds suggests that developing countries have expressed a clear preference for this form of management of climate change and sustainable development finance from various sources. So while it is still early to say that the national fund will be the standard approach, it surely will be a prominent feature of the REDD-plus' national financial infrastructure in many countries.

The spread of national funds is influencing the development of REDD-plus. For instance, the UN-REDD programme has launched a South-South Knowledge Exchange on National Fund Design, which has met twice in 2013 and is set to

³¹ Smaller-scale initiatives were also supported, from a specialised Biodiversity Fund (FUNBIO) to landscape-level monitoring activities and the creation of an Environmental Rural Registry to encourage compliance with environmental legislation. See: Price Waterhouse Coopers, *National REDD+ funding frameworks and achieving REDD+ – findings from readiness consultation* (PWC 2009) 26-7.

³² Established in 2007, the Forest Conservation Grant Fund (also known as 'Bolsa Floresta') is an official policy of the Brazilian State of Amazon which distributes payments to over 37,000 families and communities for maintaining forest ecosystem services (zero deforestation), enrolling children to school and engaging in sustainable income-generating activities. 'Bolsa Forest Program' (FAS) <<http://fas-amazonas.org/pbf/?lang=en>> Accessed 12 February 2014.

³³ Zadek et al, *Radical Simplicity in Designing National Climate Institutions: Lessons from the Amazon Fund* (AccountAbility 2009) <www.accountability.org/about-us/publications/radical.html> Accessed 31 January 2014.

³⁴ See chapter 3 (n 116). In fact, there are pressures from inside Brazil to extend the Fund's operation to carbon market finance. Vatn and Angelsen (n 20) 71.

³⁵ *Infra* (n 101).

³⁶ Such as the Mexican Forest Fund established by law in 2003: Ley General de Desarrollo Forestal Sustentable, Conservación, protección, restauración y aprovechamiento sustentable de los recursos forestales, 2003 (Mexico) DOF 25/II/03.

³⁷ Porras et al, *Learning from 20 years of Payments for Ecosystem Services in Costa Rica* (IIED 2013) <<http://pubs.iied.org/16514IIED.html>> Accessed 12 February 2014.

further international best practices.³⁸ This is, in principle, a positive development. National REDD-plus funds are to be preferred to both a CDM-like market-based system for the reasons explained in chapter 3, and to budget support (i.e. to the management of international funds by government agencies) if one considers the problems of transparency, corruption and mismanagement discussed in chapter 2. However, the positive impact depends on the extent to which they exhibit certain characteristics.

7.3. Best practices for the national REDD-plus fund's design

7.3.1. Desirable qualities of the national fund

If adequately managed, the national fund is uniquely placed to promote sustainable landscape governance for it has the possibility to establish dedicated funding windows for locally-appropriate activities that address the drivers of environmental degradation and promote alternative forms of development. In order to ensure that the fund functions effectively, it is important to review the lessons learned from the operation of other funds and those that can be inferred from this discussion.

(i) Autonomy

The first lesson is that national funds should be independent from the host government but maintain well-oiled mechanisms of coordination with it. On paper a government-controlled REDD-plus fund would be well placed to integrate activities across sectors and scales, and it would also be cost-effective if its administration is shouldered by the government.³⁹ This arrangement would in principle have international legitimacy⁴⁰ whereas domestic legitimacy depends on the national circumstances: “if the general operation of a government has low legitimacy because of high corruption, allocating REDD-plus resources outside government structures

³⁸ ‘South-South Knowledge Exchange on National Fund Design’ (UN-REDD 2014) <www.unredd.net/index.php?option=com_docman&task=cat_view&gid=3285&Itemid=53> Accessed 12 February 2014.

³⁹ Vatn and Angelsen (n 20) 71.

⁴⁰ DRC, Fonds National REDD+: Termes de Référence (Kinshasa, DRC, 2009) paragraph 11 <<http://www.forestpeoples.org/sites/fpp/files/publication/2013/05/121105tor-etude-fonds-national-redd.pdf>> Accessed 12 February 2014.

might be the only credible solution”.⁴¹ However, even if they operate according to specific sets or rules, State-controlled funds would be more vulnerable to the internal problems of the national bureaucracy, such as corruption, inefficiency and bad management, lack of transparency and accountability.⁴² Just as poor governance harms a country’s investment attractiveness,⁴³ the private sector might be reluctant to invest in REDD-plus if the management of portfolio investments is run by a less-than-trustworthy government agency, and if returns depend on country-level performance. Under such arrangements, the perceived risks of the investment would only be offset by a track record of high profits that is consistent over time and across countries.

Independent funds are in principle more open, transparent and accountable, but their use has been ruled out by the COP. This is a sensible choice because independent funds may have coordination problems with the host country administration or their legitimacy could be contested insofar as it would be “politically difficult to accept that decisions ... are side-lined by a country’s general decision-making structures and land use policy”.⁴⁴ The intermediate solutions explored in section 7.2 combine the advantages of an independent governance structure (e.g. balanced representation of stakeholders, openness, accountability) with those of working alongside the host government (integration and coordination).⁴⁵ Such funds are managed by a multi-stakeholder committee, but with different degrees of independence. In Indonesia the trust fund is under the firm control of the recipient government, with the committee chaired by one or more senior government officials and made up of a majority of government representatives.⁴⁶ In Ecuador and DRC the steering committee has a

⁴¹ *Ibid.*

⁴² Vatn and Angelsen (n 20) 66-7.

⁴³ Woo, Heo, ‘Corruption and Foreign Direct Investment Attractiveness in Asia’ (2009) 1(2) Asian Politics & Policy 223; Mathur, Singh, ‘Foreign direct investment, corruption and democracy’ 45(8) Applied Economics 991.

⁴⁴ Vatn and Angelsen (n 20) 69

⁴⁵ Conway and Pritchard (n 25) 9.

⁴⁶ The Yasuní-ITT Trust Fund’s Steering Committee has six members with voting rights made up as follows: three representatives of the Ecuadorian Government, two representatives from the donor countries’ governments and Ecuadorian civil society representative, and the Chairperson casts the deciding vote in case consensus is not reached; the National REDD+ Fund’s Committee has eleven members: four government representatives, two representatives of donor countries, a UN Resident

more balanced representation of stakeholders and the fund is administered by the UNDP Multi-Partner Trust Fund Office has been appointed.⁴⁷ The Amazon Fund is governed by a representative multi-stakeholder board free from overbearing government influence but limited by the National Bank's operating procedures.⁴⁸ In all considered cases the disbursements are approved by the steering committee with the support of a technical committee and following an application and review process. The national government keeps some control over the management of international climate change finance, although this varies from very little (Amazon Fund) to substantial (Ecuador and DRC) to predominant (Indonesia). Implementation is devolved to private national entities (civil society organizations, the private sector, academia, professional associations and others), except in Indonesia where government agencies have a more prominent role.

Despite the differences, this semi-independent governance structure is less bureaucratic than multi-layered government management under a budget support option, although the creation of dedicated funding windows or sub-funds can greatly increase bureaucracy. It is also simpler than a carbon market approach in that funding is managed by one entity rather than dispersed through a multitude of channels, which may make the overall picture of national REDD-plus action rather complicated. Moreover, multi-stakeholder representation increases transparency, democratic legitimacy and accountability.⁴⁹ This is particularly so if disbursement criteria and performance measurements are open to external scrutiny from both donors (top-down accountability) and stakeholders (bottom-up accountability).⁵⁰ Legitimacy would depend upon the balanced composition of the steering committee

Coordinator and one representative each for civil society, the private sector and the UN Partner agencies (rotating between FCPF and UN-REDD).

⁴⁷ Albeit in the case of the Yasuní-ITT Fund the choice was made to give visibility to the initiative vis-à-vis international donors, whereas in the case of DRC's National Fund fiduciary administration by UNDP is granted on an interim basis, until the Government will have enough capacity to administer the Fund domestically.

⁴⁸ Forstater, Watson, Nakhooda, *The effectiveness of climate finance: a review of the Amazon Fund* (ODI 2013) 11 <www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8340.pdf> Accessed 12 February 2014.

⁴⁹ Spergel and Wells (n 24) 78-9.

⁵⁰ Spergel, Taïeb, *Rapid Review of Conservation Trust Funds* (Conservation Finance Alliance 2008) 12 <www.conservation.org/global/gcf/Documents/rapid_review.pdf> Accessed 12 February 2014.

and on voting rules - as well as, implicitly, on the legitimacy of the individual committee members themselves.⁵¹

(ii) Fiduciary responsibility

Although clear and transparent fund governance is necessary for effective financial management, it is not sufficient. The second element of an effective national fund is to have in place strict fiduciary standards. In finance, the fiduciary relationship is the highest standard of customer care between a financial advisor and the investor. It entails both a duty of care and a duty of loyalty, and requires the fiduciary to act in the best interest of the customer, disclosing any conflict of interest and other material facts that may influence its work. In this context, international donors and investors are the customers that entrust their money to the national fund. The fund's management bodies, trustees and other seniors with management responsibilities should thus be legally bound, individually and collectively, to act according to the fiduciary standard and must be legally and/or politically accountable before donors and investors for all mismanagements.⁵² Fiduciary standards are particularly important for non-results-based payments. But even when funds are transferred *ex post* and based on results, there may still be space for misappropriation and mismanagement of scarce resources.

An area in which government support is crucial is regulation. The national fund should be accompanied by extensive national laws and regulations that reduce the scope for financial crimes. As REDD-plus countries generally have poor procedural governance,⁵³ a big injection of funds within these systems would make the problem more acute and is bound to compromise the programme's impact. As the Cancun Decision requests developing countries to develop "transparent and effective national forest governance structures", the national fund must minimise the potential for mismanagement and corruption.⁵⁴ One way to ensure this is by placing an

⁵¹ The latter is a serious problem for local and indigenous communities that share very little and may have relatively few common interests. The onus is thus on establishing appropriate mechanisms for the nomination of representatives.

⁵² Spergel and Taïeb (n 50) 9-11.

⁵³ Chapter 2 section 2.

⁵⁴ UNFCCC (n 9) appendix I.

obligation on each entity involved in the management of REDD-plus to fully disclose information on its activity. Moreover, a streamlined delivery process that does not involve too many intermediaries can be regarded as intrinsically more transparent than one where responsibilities are shared among different actors. Precise mandates and exclusive competences for all the actors throughout the revenue chain promote the clear-cut allocation of responsibilities.⁵⁵ Finally, there should be full accountability for any mismanagement of funds both towards donors, multilateral funding agencies and monitoring organisations (top-down accountability) and towards local stakeholders (bottom-up accountability).

The obligations arising out of the fiduciary standard should be set out in detail. There are two options for setting fiduciary standards in national funds. The first is the adoption of an international fiduciary standard, such as the one used by the Adaptation Fund to regulate national implementing entities pursuant to a COP decision.⁵⁶ In this scenario, national fiduciaries have to comply with specific management, procedural and monitoring duties to ensure financial integrity, cost-effectiveness and transparency.⁵⁷ The second option is to infer the national fund's fiduciary standard from the operating modalities of REDD-plus' international disbursement entities. Although the second option would seem riskier, it could in fact result in higher – albeit inconsistent - standards. In fact, as developing countries are likely to receive support from various sources, their fiduciary standard will have to be at least as high as that required by each funding entity, and this can result in very demanding conditions. However, it would also result in a duplication of guidelines, reporting procedures, procurement practices and so forth, which are likely to increase the operational costs of the fund as well as slow down its operation. For this reason, the adoption by the COP (through one of its subsidiary bodies) of an international fiduciary standard for national REDD-plus funding management seems a better option.

⁵⁵ Mandondo, Mapedza, *Allocation of Governmental Authority and Responsibility in Tiered Governance Systems: the Case of Environment-related laws in Zimbabwe* (WRI 2003) <http://pdf.wri.org/ea_mandondo.pdf> Accessed 12 February 2014.

⁵⁶ UNFCCC COP Decision 5/CMP.2 (2006) UN Doc FCCC/KP/CMP/2006/10/Add.1.

⁵⁷ Adaptation Fund Board Decision B.22/23, *Operational Policies And Guidelines For Parties To Access Resources From The Adaptation Fund* (Amended in November 2013) .

An obvious starting point for this is the drafting of fiduciary rules for REDD-plus funds disbursed by the Green Climate Fund, which operates under the control of the COP. The GCF Governing Instrument has begun a process for the development of a guiding framework containing two sets of basic and specialised fiduciary principles and standards, which define: minimum administrative and financial capacity, level of transparency and accountability, specialised project or programme management capacity, and financial management practices of all recipient entities.⁵⁸ The establishment of legally binding fiduciary standards, which accreditation of national funding entities and hence the receipt of funds depends upon, is a good starting point. However, as REDD-plus funds will come from a variety of sources, it is essential that the same standards and best practices are applied to the management of funds that are not disbursed by the CGF (e.g. through bilateral or multilateral governmental agreements or directly from the private sector).

(iii) Cost-efficiency

The third quality of the national fund should be to keep unproductive expenditures low, which is imperative given the current funding gap. Trust funds are likely to have low administrative costs, although these can vary significantly with size and management practices. A recent review of conservation trust funds found that their administrative costs range between 10-20 percent of the annual budget, and that donors commonly establish a ceiling on administration costs of around 15 percent.⁵⁹ In the case of large scale financial entities, costs may be even lower. For instance, the administrative costs of the Global Environmental Facilities (which include project management costs of executing agencies, project cycle management costs and corporate costs of GEF Agencies) are covered by a 10 percent fee off the project budget.⁶⁰ The administrative cost of state-controlled funds may be even lower if trust

⁵⁸ GCF, Guiding Framework and Procedures for Accrediting National, Regional and International Implementing Entities and Intermediaries, Including the Fund's Fiduciary Principles and Standards and Environmental and Social Safeguards (Progress Report) (2014) GCF/B.06/09.

⁵⁹ Spergel and Taïeb (n 50).

⁶⁰ Global Environmental Facility, GEF Administrative Expenses: Fees and Project Management Costs External Review (GEF 2011) UN Doc GEF/C.41/07.

funds rely on existing government agencies or national financial institutions.⁶¹ For instance, the Amazon Fund reported administrative costs as low as three percent.⁶² This estimate contrasts with the high transaction costs and private rents of the carbon market option.⁶³

Other cost categories will depend on the capacity of the fund managers. For instance, programmatic delivery may create economies of scale and thus reduce implementation and transaction costs.⁶⁴ At the same time, rents are lowered if the national fund ensures that incentives are commensurate with the on-the-ground costs rather than determined by the global price of carbon.⁶⁵ Ideally, any profit should be generated by the low-carbon activities that REDD-plus supports, rather than drained directly by the programme's limited financial pot. Using an existing financial institution, such as a national development bank or the advice of multilateral financial institutions, would ensure that the fund is administered with financial expertise and that administration costs are reduced.

Compared to direct project-based investments, funds are not an attractive option for the private sector. However, the extent to which this 'forced intermediation' is tolerated by investors would depend on the the entailed benefits and costs. Independence from government interference, slim bureaucracy, fiduciary standards of care, transparency, low administration costs and adequate representation in the governing body should make funds more attractive for the private sector. Moreover, vetting mechanisms, carbon offset guarantees, and other services that make the risk/reward ratio of investments more convenient would ease foreign direct investments in activities with emission reduction potential.

Participation should be sought from companies operating in the carbon market (often speculative investors) as well as companies that invest in low-risk, low-return, long-term agricultural development projects, sustainable forestry operations, and other

⁶¹ Vatn and Angelsen (n 20) 71; however, while the establishment of the fund itself is immediate, agreement on its governance mechanism and on the disbursement procedure are more complicated.

⁶² Zadek et al (n 30) 8.

⁶³ Chapter 3 section 3.

⁶⁴ Fosci, 'The Economic Case for Prioritizing Governance over Financial Incentives in REDD+' (2013) 13(2) Climate Policy 170, at 177.

⁶⁵ Chapter 3 section 3.

environmentally certified commodities (particularly long-term investors). With the expected growth of primary commodity demand worldwide, investments in these markets are bound to expand considerably. In theory, the role of REDD-plus would be to increase the profitability of investments in low-carbon rural and forestry activities that would not otherwise be made. This way, REDD-plus could draw from a much larger financial pool: the total value of certified emission reductions (CERs) traded in the primary carbon market in 2011 was less than US\$1 billion,⁶⁶ whereas foreign direct lending to non-bank sectors in developing countries was just under US\$1.5 trillion (2010)⁶⁷ and foreign direct investments were around US\$684 billion (2011) and in rapid recovery after the 2008 crash.⁶⁸ Additionally, the private sector has the financial, technology and human resources, and the innovative capacity to make REDD-plus activities more cost effective.

7.3.2. Targeting the delivery of financial support

The establishment of a national fund is nothing more than the creation of a safe repository of international finance and it is only the first step in the development of a NFI. After the fund's governance structure is established, the challenge is to develop effective disbursement mechanisms and procedures that are compatible with international rules and principles. The ability to tailor disbursement modalities and financial instruments to the circumstances of recipients is pivotal to addressing the drivers and promoting sustainable landscape governance, and thus it deserves separate treatment.

The first challenge is to ensure that a broad range of entities, including individuals, for-profit and not-for-profit organisations, communities and government bodies, are legally entitled and able to access REDD-plus funds. The legal entitlement of different stakeholders could be either spelled out in the law or simply left unregulated and to the discretion of the government. The disadvantage of the latter

⁶⁶ Kossoy, Guigon, *The State and Trends of the Carbon Market 2012* (World Bank Institute 2012) 49.

⁶⁷ Roburgh, Lund, Piotrowski, *Mapping global capital markets in 2011* (McKinsey Global Institute 2011) 7.

⁶⁸ UNCTAD, *World Investment Report 2012: Towards a New generation of Investment Policies* (UNCTAD 2012) 3.

option is that the government could discriminate between different categories of actors, e.g. under the influence of vested interests.⁶⁹ However, even listing permissible fund recipients could be interpreted restrictively so as to exclude actors that do not fit exactly within one of the categories included. For this reason, the COP must ensure that safeguards 2(c) and 2(d) of the Cancun Decision⁷⁰ are adequately scrutinised and that communication channels are in place to make stakeholders' voices heard.

A more difficult task it to ensure that all legally entitled beneficiaries of REDD-plus support have access to it. This requires that funding be distributed at appropriate scales and that different disbursement modalities/financial instruments be used. Flexibility of scale is integral to a strategy that aims to tackle the drivers consistently with the policy response identified in the participatory planning process. For instance, if a driver has significant national impact and well-known dynamics that are consistent across the territory, as is the case of palm oil production, then the national and provincial levels would be best placed to implement a systematic response to the problem. The national fund must therefore be equipped to routinely administer payments for large-scale interventions. Parker et al call this type of financial support "programmatic service delivery".⁷¹ For landscape-scale interventions funds might be directed to regional authorities (or state authorities for federal states), such as in the case of land reforms and planning (e.g. agro-ecological zoning), and large capacity-building programmes (e.g. monitoring and enforcement). Financing might also be earmarked to specific interventions, such as large infrastructural projects (e.g. to favour the localisation production outside forest areas), technological investments (e.g. in agricultural intensification), and national investment programmes (e.g. tax credits for sustainable activities).

By contrast, in those cases where forest loss is driven by locally-specific and generally small-scale activities, such as fuelwood collection, incentives targeted to

⁶⁹ For instance, it could decide that only local actors with registered legal titles to land can benefit from REDD-plus incentives, or that a funding window for sustainable forest management can be only accessed by commercial enterprises and so forth.

⁷⁰ UNFCCC (n 9) appendix I paragraph 2; also see chapter 4 section 1.2.

⁷¹ Parker et al, Mitchell, *Little Climate finance Book: A guide to financing options for forests and climate change* (GCP 2009) 94.

village and council levels would be more effective. The national fund should be made accessible to communities or grassroots organisations, for instance by establishing a dedicated funding window backed by a diffuse delivery system integrated in the territory. The Fund should proactively spread information and provide assistance to potential beneficiaries to ensure widespread participation. Box 7.1 highlights the importance of investing in local capacity-building alongside the provision of credit in order to change local economic dynamics in a way that addresses the drivers; the same principle applies for other kinds of economic incentives.

Secondly, financial distribution must use instruments that are targeted to the needs of stakeholders as well as to the type of the drivers under consideration. In this light, pressures to harmonise financial rules internationally would backfire because excessively detailed and prescriptive international regulations would limit the choice of financial instrument.⁷² The intermediation of the national government, whether through an institution such as the national REDD-plus trust fund or through domestic legislation, is crucial to ensure that the disbursement modalities are consistent with “national development priorities, objectives and circumstances”, “national sustainable development needs and goals”, and particularly the goal of “reducing poverty”.⁷³ To this end, financial support may have to be provided to activities that tie in with traditional development assistance.⁷⁴ The idea is that support must be given according to modalities and conditions that are appropriate to the activities identified as well as to the conditions, needs and capacity of the recipients. An element of flexibility must thus be built into the system which does not standardise the provision of incentives across the board but which is instead responsive to local needs.

⁷² This should not be read as an endorsement of light-touch financial regulation, which could have negative social consequences, as well as increased economic risks and illegality. It should rather be intended as a call for balanced international financial regulation, one that combines flexibility with consistency and high fiduciary standards.

⁷³ UNFCCC (n 9) appendix I.

⁷⁴ Palmer et al note that without the provision of agricultural extension services, land reforms that focus on tenure redistribution remain incomplete and do not achieve their goals; they also note that “the costs of providing adequate support to beneficiaries far exceed the costs of acquiring and transferring the land [and] can account for 60-70 percent of the total costs of a land reform”. Palmer, Fricska, Wehrmann, *Towards improved land governance* (UN-HABITAT 2011) 31.

Financial instruments are legal agreements determining the conditions for the transfer of any sort of monetary value. Several discrete instruments can be employed to address the specific drivers of forest loss, for instance supporting activities defined in the spatial planning process. These instruments vary greatly in terms of their potential scale and applicability, hence their choice will be determined as much by the behaviour of drivers in the national and local context as by the strings attached to specific international funding streams. For instance, if international support to a REDD-plus country is largely results-based, domestic authorities will have to choose an appropriate financial instrument that is also results-based; and if the disbursement is primarily driven by the private sector, the domestic financial instruments used must be not only compatible with private sector participation but also attractive for it. In this sense, some influence by international financial generation arrangements over national disbursement instruments is inevitable, but it is crucial that national stakeholders' maintain the freedom to decide which option to use.

Financial instruments for REDD-plus can be divided into grants and results-based. The difference between grants and results-based finance has already been analysed.⁷⁵ Results-based instruments can be further divided into asset-based, debt-based and risk-transfer. Asset-based instruments involve the transfer of an environmental service (usually emission reductions and sequestrations in the form of a carbon offset) to the donor/investor; they require MRV or a comparable form of measurement of results as a basis for the transfer of the environmental service. Debt-based instruments are designed to allow the recipient to raise funds to make its activity low-carbon; access to subsidised credit could be made contingent upon environmental performance. Risk-transfer instruments incentivise investments in REDD-plus activities by providing guarantees against capital losses or lost profits; rather than a financial delivery instrument *per se*, they are a complementary condition to the distribution of finance via standard capital investments. On top of this, tax instruments can use grants or results-based techniques to deliver incentives (and disincentives), depending on whether they use *ex ante* discounts or *ex post* rebates. The financial instruments available to REDD-plus are summarised in table 6.

⁷⁵ Chapter 3 section 2.

Table 6: Financial instruments for the delivery of REDD-plus incentives⁷⁶

Financial Instrument	Description	Scale of Implementation	Disbursement Condition
Grants	Financial support for reforms, capacity-building or projects	Local to Regional	Non results-based
Tariffs and Taxes	Tax rebates or deductions for sustainable activities or performance	National	Flexible
Public-Private Partnership	Joint implementation of activities, shared risks and shared profits	Local to National	Flexible
PES scheme	Nationally mediate payments for carbon storage and sequestration	Regional to National	Asset-based (MRV)
Carbon market	International payment for carbon credits	Local	Asset-based (MRV)
Subsidised Credit	Preferential loans conditional to the performance of certain activities or on achievement of results	Regional to National	Debt-based
Guarantee and Insurance	Reduction of investors' risk for a share or lost profits or for specific events	Regional to National	Risk-transfer

The list is fairly comprehensive but non-exhaustive, as countries should be free to explore new and innovative mechanisms in their national approaches. Each instrument has discrete advantages and disadvantages, which will be discussed below. What is clear, however, is that many instruments will be used in combination to ensure that resources are delivered at the right scale and conditions. Although theoretically there is no limit to the number of financial instruments that can be employed simultaneously, it is likely that after a period of initial experimentation implementation will settle on a limited number of options that are considered most

⁷⁶ Adapted from: Streck, Zurek, *Addressing Agricultural Drivers of Deforestation: Opportunities for Catalytic Donor Interventions* (Climate Focus 2013) 17-8.

effective in a certain context, particularly where such instruments are supported by public policies and programmes.

7.3.2.1. Grants

Grant-based financial delivery is widely used in development assistance. In its simplest form it is managed by a government agency or a national development bank to support specific activities, including readiness activities. Grants can be provided to compensate stakeholders for unpopular measures (such as restrictive zoning), increase government capacity (e.g. in monitoring and law enforcement) or decentralise responsibility for forest protection (for instance by allocating resources through an “application and review” process similar to that used by international financial institutions).⁷⁷ In all cases it would be difficult to establish a clear link between the money invested in REDD-plus and the emission reductions generated at the national level, which may still be required by international donors. Moreover, lack of transparency and accountability in the allocation process is positively correlated with corruption and mismanagement.⁷⁸ The most crucial problem is the lack of private sector support for this option. Earmarked financial support to government budget is currently used to finance readiness activities,⁷⁹ and Vatn and Angelsen note that “during the last decade, budget support, or macro-level programme aid, has been an increasingly popular aid modality” which represented a “shift from traditional *ex ante* conditionality to a partnership approach”.⁸⁰ However, the lack of capacity in national administrations casts doubts on the capacity of developing countries governments to distribute REDD-plus finance.⁸¹ For these reasons, as well as for the donor countries’ high debts, grant-based finance should be

⁷⁷ Governments can receive support for activities under their control, or they could endorse private initiatives (in the latter case a national designated authority or focal point decides on the endorsement of projects). Within the climate change regime, this process is used to finance readiness activities (intermediation being provided by UN-REDD and FCPF), as well as government-endorsed mitigation adaptation projects (as in the case of the GEF-managed Adaptation Fund and LDC Fund funds).

⁷⁸ Vatn and Angelsen (n 20) 69.

⁷⁹ Chapter 3 box 3.1.

⁸⁰ Vatn and Angelsen (n 20) 72.

⁸¹ Allen, Schiavo-Campo, Garrity, *Assessing and Reforming Public Financial Management* (World Bank 2004); Jones, Kettl, ‘Assessing Public Management Reform in an international Context’ (2003) 4(1) *International Public Management Review* 1.

limited in scale and scope to the cases in which private sector participation and results-based implementation are unviable, or to specific cases in which the government establishes a priority to achieve non-carbon benefits or other development objectives.

7.3.2.2. Tariffs and taxes

An alternative form of incentive delivery that relies on government control is by way of specific tax arrangements on activities that either cause or reduce forest emissions. These arrangements can be grant-based or results-based: grants would support tax deductions for activities that are generally regarded as sustainable/low-carbon (such as agroforestry production, ecotourism, agricultural intensification and so forth); results-based finance would support tax rebates for activities that have had a proven mitigation impact (for instance, companies producing timber and other commodities could be exempt by taxation if they obtain independent certification of their low-carbon impact).⁸² By contrast, tariffs could be increased on activities that cause forest emissions. This arrangement would mimic the operation of a carbon tax on a sectoral basis rather than on the specific emissions, thus hitting entire industries and encouraging the development of more carbon-efficient modes of production. For this reason, tariffs may not be compatible with the approach taken by developing countries and their use could be limited to activities with particularly high carbon impact, such as palm oil cultivation in peatland areas.⁸³ Tax arrangements are a form of incentives alternative to financial payments, and they can be used in combination with other financial instruments to ensure additionality. This instrument requires extensive and accurate information to identify activities whose growth would lead to reduced forest emissions, the level of tax incentives that could lead to such growth and whether or not there are knowledge-related, infrastructural or capital investment barriers.⁸⁴ Their use is limited by the fact that they do not apply in case of

⁸² See, for instance, 'Rainforest Alliance coffee certification scheme' (Rainforest Alliance) <www.rainforest-alliance.org/agriculture/crops/coffee> Accessed 12 February 2014.

⁸³ Peatland forests store more carbon than normal forests and their preservation is therefore a priority for REDD-plus. Pan et al, 'A Large and Persistent Carbon Sink in the World's Forests' (2011) 6045(333) *Science* 988-93; Page, 'The amount of carbon released from peat and forest fires in Indonesia during 1997' (2002) 420 *Nature* 61.

⁸⁴ Fosci (n 64) 174.

subsistence activities, activities that are generally untaxed (such as illegal activities), and activities that already have a low taxation regime (for which, it is implied, a tax rebate for environmental performance would not constitute a sufficient incentive).

7.3.2.3. Public-Private Partnerships (PPPs)

As seen earlier, the limited availability of public sector funds calls for the involvement of the private sector in implementation.⁸⁵ One way of doing this is through PPPs. PPP is a broad concept that includes many forms of cooperation between the public and private sectors, and in fact all the REDD-plus' financial instruments that involve private entities are supported, directly or indirectly, by public resources. This paragraph discusses a form of PPP in which both parties are directly involved in the management of a geographically and temporally limited REDD-plus activity, whether it be a project or a programme. PPPs of this kind bring substantial benefits insofar as the public sector entity reduces its cash outflows by attracting foreign investments and the private sector reduces the initial costs and risks of the investment. Arrangements can be made to share profits in such a way that the investor has a minimum profit floor (i.e. a minimum guaranteed return) but also a profit ceiling (beyond which extra revenues could accrue to the government to cover its expenses and further invest in forest protection). A strategic dialogue would be needed to identify the respective strengths of partners:⁸⁶ e.g. the private sector could contribute its financial expertise to increase the profitability of a REDD-plus activity (e.g. through sustainable agricultural intensification) while the public sector could bear forest protection costs, build critical infrastructure or undertake capacity-building programmes in the project-area. Although this type of instrument can accommodate various disbursement modalities, achieve cost-effectiveness and attract the private sector, its use can only be limited: scaling up the use of PPPs from a few pilot projects to become the standard way of implementation may be too demanding for States in light of the lack of administrative capacity discussed earlier,⁸⁷ and may distort competition (e.g. if the activities have a productive dimension) and create transparency problems in the selection of private sector partners.

⁸⁵ Chapter 3 section 3.

⁸⁶ Streck and Zurek (n 76) 29.

⁸⁷ Chapter 2 section 2.

7.3.2.4. Subsidised credit

A more replicable way of distributing REDD-plus resources with relatively minor financial inputs is by providing access to subsidised credit. Low-interest credit lines could be created to support activities with a proven emission reduction or sequestration potential, such as sustainable forest management, agricultural intensification, or expensive agroforestry enterprises. Using REDD-plus resources in the form of subsidised credit has a number of advantages: first, it is sustainable and low-cost even though it may not be commercially viable; second, it may be targeted to stakeholders with little or no collateral and who would otherwise have no access to credit; third, it could be flexible enough to support activities that address different drivers in a context-specific manner; fourth, rural development banks already distribute subsidised credit and would thus be well-placed to manage a REDD-specific credit line at the macro-level; fifth, it can promote long-lasting emission reduction by changing the economics of deforestation in loco. In order to prevent the spread of a successful low-carbon enterprise into forest areas at a later stage, further measures must be taken, such as linking the favourable loan repayment conditions to demonstrated environmental performance or stipulating contracts that bind the recipient of funds to preserve forest carbon. The provision of credit in rural areas must be complemented by supporting services (see box 7.1). The limit of this option is that access to credit would only effectively reduce forest emissions where there is a readily available economic alternative and local capacity to implement it with adequate credit. Moreover, lack of access to credit is a problem for small enterprises as big logging and agricultural companies do not seem to have liquidity problems. Hence subsidised credit would only be an effective instrument where forest emissions are driven by local activities, such as local fuelwood collection and subsistence agriculture, whereas it would not challenge the economic rationale of large-scale commercial drivers.

Box 7.1: Microcredit and supporting services

Lack of access to credit is often cited as one of the main obstacles to rural development, and a cause of environmental degradation.⁸⁸ Some observers proposed to include micro-financial services to forest communities in national REDD-plus readiness strategies.⁸⁹ In such case, attention should be paid to address some of the problems of microfinance. First, finance may negatively affect social structures and further local inequality;⁹⁰ to avoid that, funding governance at community level must be strengthened (e.g. by establishing community trust funds).⁹¹ Secondly, microcredit has become a commercial product concerned with its own economic sustainability; the socio-environmental objective of microcredit must be reinforced with regards to funding allocation and commercial conditions (e.g. REDD-plus resources should lower interest rates considerably). Thirdly, focus on credit must not ignore the need to provide supporting services for rural economic development. Supporting services can be seen as investments in human capital (such as technical training, sharing information on best practices and general management skills) and in physical capital (such as market infrastructures, transport, seeds and so forth).⁹² Tomaselli and Hajjar maintain that the provision of support services “can be incorporated into REDD-plus readiness strategies through national capacity building schemes”.⁹³ However, in their analysis of land reform, Palmer et al note that “the costs of providing adequate support to beneficiaries far exceed the costs of acquiring and transferring the land [and] can account for 60-70 percent of the total costs of a land reform”.⁹⁴ These costs must therefore be budgeted early on in the reform process.

7.3.2.5. Guarantees and insurances

By contrast, risk-transfer instruments would make large-scale as well as small-scale investments in desired low-carbon activities more attractive by lowering risk. As a

⁸⁸ See Spantigati, Springfors, *Microfinance and Small-Scale Forest-Based Enterprises* (FAO 2005); Sievern, Vandenberg, ‘Synergies through Linkages: Who Benefits from Linking Micro-Finance and Business Development Services?’ (2007) 35(8) *World Development* 1341; Wenner, Wright, Lal, ‘Environmental Protection and Microenterprise Development in the Developing World: A Model Based on the Latin American Experience’ (2004) 6(1) *Journal of Microfinance* 95.

⁸⁹ Tomaselli, Hajjar, ‘Promoting Community Forestry Enterprises in National REDD+ Strategies: A Business Approach’ (2011) 2 *Forests* 283, at 286-8.

⁹⁰ Rankin, ‘Governing development: neoliberalism, microcredit, and rational economic woman’ (2000) 30 *Economy and Society* 18, at 32; Pasgaard, Chea, ‘Double Inequity? The Social Dimensions of Deforestation and Forest Protection in Local Communities in Northern Cambodia’ (2013) 6(2) *ASEAS* 330, at 348.

⁹¹ See, e.g. ICIMOD, *Pilot Forest Carbon Trust Fund: Rewarding local communities for forest conservation for instance* (Nepal, 2011) <http://communitycarbonforestry.org/icimod-pilot_forest_carbon_trust_fund_.pdf> Accessed 1 February 2014. The community filter could also reduce transaction, monitoring and enforcement costs, and credit risk thanks to better information on the borrowers and a social control element.

⁹² Macqueen, *Supporting Small Forest Enterprises: A Cross-Sectoral Review of Best Practice* (IIED 2008); Tomaselli and Hajjar (n 94); Palmer et al (n 78) 31.

⁹³ Tomaselli and Hajjar (n 94) 283.

⁹⁴ Palmer et al (n 74) 31.

general rule, the return on investment must at least compensate the investor for the risk incurred. In the case of foreign direct investments in low-carbon activities, returns may not always be sufficiently high to compensate risk.⁹⁵ REDD-plus finance could thus be used to provide guarantees or insurance to those investments that meet certain climate mitigation and sustainability criteria but without actively participating in their management. A guarantee can be used to compensate private losses arising from unsuccessful REDD-plus investments, whereas insurance could cover the entire loss of profit caused by specific events (e.g. forest fires, regulatory changes, illegal activities etc.).

Both instruments aim to lure investors by reducing their exposure to risk, the downside of which is that they could lead to excessive risk-taking by investors unless there is a meticulous pre-screening of projects, leaving the host country to bear excessive costs. A second challenge is that risk transfer instruments would be particularly attractive for direct investments in offset-generating activities, which are still unknown to markets and pose a number of technical and methodological questions. But such investments are currently limited by a structural deficit in demand:⁹⁶ to change this dynamic one must attract investments in standard rural and forestry activities, for which carbon offsets are just a premium. In the latter case, however, the major obstacles may be the lack of structural conditions for investment (such as supporting infrastructure, local capacity and so forth) rather than risk. This option can thus be used in combination with grant-based readiness expenditures that create the enabling conditions for investments in low-carbon activities.

As already discussed, financial incentives to reduce forest emissions can also be based on the sale of property rights over carbon. The nested approach has the advantage of attracting private sector support (although only from the languishing

⁹⁵ Investments are exposed to many types of risks. In the case of foreign direct investments in low-carbon rural and forestry activities, the main types of risk involved are operational risk (due to inadequate internal processes), market risk (particularly due to commodity price fluctuations), regulatory risks (such as expropriation) and reputational risk (for instance if projects do not comply with certain social or environmental standards).

⁹⁶ Chapter 3 section 3.

carbon markets),⁹⁷ of maintaining relatively simple institutional arrangements, and of (marginally) increased transparency and flexibility.⁹⁸ However, this option “does not appear to address the many flaws identified in the CDM approach”⁹⁹ and depends on a strong demand from carbon markets that is currently lacking.

7.3.2.6. Payments for Ecosystem Services (PES)

A similar asset-based financial instrument is the PES mechanism. PES may or may not require the creation of an asset such as the carbon credit, upon which property rights can be exercised, but it is based on the identification of a service provided by ecosystems (such as water generation) that derives from the latter’s intact or pristine condition (e.g. the maintenance of vegetation in a watershed region). Payments are transferred for the maintenance of such conditions that allow the continued provision of the service (i.e. they are results-based). PES mechanisms are often managed by governments and payments are transferred from service users and providers located within a limited geographic area (subnational or national). For instance, the Dominican Republic Forest Law (law 118 of 1999) promotes the valuation of the ecosystem services of forests (including carbon sequestration), and allows the government to issue negotiable reimbursement certificates to finance up to 80 percent of the expenses of capital and investments made in the establishment and handling of plantations and management and protection of forests.¹⁰⁰ Under Costa Rica’s PES mechanism, a National Forest Finance Fund is allowed to issue certificates for forest conservation representing payment for ecosystem services; the certificates can be used by the landowners to pay taxes and other fees owed to the government.¹⁰¹ Under REDD-plus the PES system could be extended to international buyers and made compatible with international measuring, reporting and verification

⁹⁷ Major donor institutions have set up programmes to reform public finance management in developing countries, but progress is limited. Cortez et al, *A Nested Approach to REDD+: Structuring Effective and transparent Incentive Mechanism for REDD+ implementation at Multiple Scales* (TNC 2010) 9; UNEP, *REDDy, SET, GROW, Part 1 - A briefing for financial institutions: Opportunities and roles for financial institutions in forest carbon markets* (UNEP 2011) 6-7.

⁹⁸ Karsenty, *Financing options to support REDD+ activities: Based on a review of the literature, Report for the European Commission DG Climate Action* (CIRAD 2012) 33.

⁹⁹ *Ibid* 12.

¹⁰⁰ Costenbader (ed.), *Legal frameworks for REDD: Design and Implementation at the national level* (IUCN 2009) 72.

¹⁰¹ Government of Costa Rica, Forestry Law 7575 (1996).

rules. The State would retain a proactive intermediary role between international buyers and local providers (i.e. by buying environmental services on behalf of service users and marketing them to foreign donors and investors).¹⁰² These schemes have been rather effective in reducing and even reversing forest loss in some countries¹⁰³ and in delivering funds to small stakeholders. However, they do not seem well-placed to address industrial drivers of deforestation unless used in combination with other tools.

The applicability of financial instruments depends on preconditions relating to both the level of government capacity and the progression of the international legal framework. The National REDD-plus Fund provides the organisational structure for the progressive introduction of financial instruments without being bound to any particular mechanism (as the market-based approach would do) and without establishing rigid procedures and responsibilities that could encumber the development of the NFI (as would happen under budget support). Such progressive introduction is crucial to incorporate changes in the international legal framework (e.g. the establishment of a new carbon market and other trading mechanisms, the operation of international REDD-plus funds under the Green Climate Fund, the introduction of new guidelines and safeguards and so forth), to make sure more sophisticated instruments are adopted as a country's bureaucratic capacity grows, and to apply lessons learned in implementation about what mechanisms work better in delivering support to fund beneficiaries.¹⁰⁴

7.4. Green finance for sustainable landscape governance: a proposal

The multitude of diverse activities and actors involved in REDD-plus can only be effectively supported by a national financial infrastructure that exhibits the qualities

¹⁰² Wunder, 'The Efficiency of Payments for Environmental Services in Tropical Conservation' (2006) 21(1) *Conservation Biology* 48.

¹⁰³ OECD, *Paying for Biodiversity: Enhancing the Cost-Effectiveness of Payments for Ecosystem Services (PES)* (OECD 2010).

¹⁰⁴ Potentially, the fund would be well-placed to develop funding streams that target specific groups of stakeholders, e.g. NGOs and grassroots organisation, communities and individuals, the private sector, and lower level of government.

discussed in the previous section. A national REDD+ fund can, in principle, attract funding from various sources, use different financial instruments, combine results-based and non-results-based funding, support small-scale and large-scale activities, and engage the private sector, civil society as well as government agencies. But to achieve that, this section suggests that a more complex NFI must be developed in three stages, using the national fund as a kingpin.

Preliminary clarifications are needed before one ventures into conceptualising a financial framework for a programme whose inner workings are still unclear, whose international rules are under discussion, and whose application spans from countries with relatively high bureaucratic capacity and financial capability to others with scarce or no governance capacity (not to mention their wildly different traditions, socio-economic circumstances and drivers of environmental change). Specifically, one must be reminded of the fallacy of one-size-fits-all solutions¹⁰⁵ and of the risk of advancing ideas that may be incompatible with the international framework once it is agreed. These risks are unavoidable when analysing ongoing policy processes, but should not be taken as a disqualification of all contributions to the development of theoretical analysis of governance structures.

To address concerns about applicability, the proposed model combines concepts and ideas that emerged from country submissions to the UNFCCC COP. It is treated at a level of detail that leaves considerable leeway for changes to be made when taking into account national circumstances and priorities. It maps out a process for the incremental development of rules and institutions whose speed depends on capacity and internal political dynamics. Finally, it is an option that countries can implement *in toto* or in part as they deem appropriate.

Step 1: The Governance Fund

In the first stages of the trust fund operation disbursement of finance should focus on completing and providing adequate and predictable support for the policy reforms that lay the conditions for the implementation of the programme (using results-based

¹⁰⁵ Blom, Sunderland, Murdiyarso, 'Getting REDD to work locally: lessons learned from integrated conservation and development projects' (2010) 13 *Env. Science & Policy* 164; Peskett et al, *Making REDD work for the poor* (ODI 2008); Pacheco et al, 'Landscape Transformation in Tropical Latin America: Assessing Trends and Policy Implications for REDD-plus' (2011) 2 *Forests* 17.

carbon payments) initiated during the readiness process, such as the tenure and spatial planning reforms discussed here. Phases one and two of international REDD-plus implementation (readiness and advanced readiness) are largely supported on a non-results-based scale by multilateral institutions as well as bilaterally.¹⁰⁶ Along these lines, this fund would not rely on payments for measured and verified emission reductions. Instead, resources could be provided partly upfront, e.g. following the application and review procedure mentioned above, and partly on condition that certain outcomes are met, such as the enactment of laws or the implementation of policies.¹⁰⁷ The Governance Fund could also support the growth of PPPs as well as *ex ante* tax deductions for low-carbon activities.

Regardless of whether resources are distributed upfront or based on outcomes, their generation remains grant-based in so far it rests on non-repayable public and private contributions. It is important to remark that grant-based finance is quantitatively limited and must thus be used strategically. However, readiness reforms require long-term support and it is thus crucial that lasting financial arrangements be established at the national level to continue supporting readiness and other grant-based activities even if international policies change and after results-based instruments are introduced. Moreover, the advantage of this funding modality is that it would gradually shift the responsibility for managing readiness funding onto national entities, leaving to donors and multilateral financial institutions pre-funding screening and post-funding monitoring functions. This trend towards the devolution of responsibilities to lower levels of governance would increase the national ownership of the activities and increase the chances that they would be mainstreamed in national policy.

¹⁰⁶ Chapter 4 section 2.1.

¹⁰⁷ Output-based, outcome-based and impact-based metrics are three ways of measuring results. The first metric measures policy outputs (documents prepared, laws passed etc), the second measures social and environmental changes (area of forest protected, progress of tenure legalisation, livelihood improvements in the communities involved etc) and the latter measures the mitigation impact (emission reduction and removals). Wertz-Kanounnikoff, McNeill, 'Performance indicators and REDD-plus implementation', in Angelsen et al, *Analysing REDD+: Challenges and choices* (CIFOR 2012) 233.

Step 2: The Forest Carbon Fund

The second step in the development of a NFI could be the creation of a funding window for asset-based instruments, which will be called the *Forest Carbon Fund*. The idea is to combine the financial rules of the carbon market with the organisational structure of a PES mechanism. Some of the existing PES schemes rely on a national trust fund which issues certificates for the provision of ecosystem services.¹⁰⁸ If the national PES scheme is linked to REDD-plus, the carbon fund could issue certificates for verified carbon credits that are then sold as offsets to national and international buyers. This system may appear similar to the nested approach described above, but while in nested REDD-plus payments would likely be transferred directly from international carbon buyers to local service providers, under PES REDD-plus international buyers would contribute to the Forest Carbon Fund and be rewarded from a pool of carbon credits generated measuring the emissions reduced against a national baseline. This model can only be used for activities in which a provider is clearly identified and has not only the legal right (tenure security) but also the power to provide the service. Mexico's Forest Fund and Costa Rica's National Forest Finance Fund use a similar logic. Channelling international support to national funds of such type does not appear to be too complex or controversial.

Compared to the CDM model, PES schemes "hedge risks" of leakage and permanence, and they reduce transaction costs; fund intermediation also prevents private actors from making excessive speculative rents out of carbon price to opportunity cost differentials;¹⁰⁹ government involvement in carbon fund management means that forest PES schemes can be more easily integrated with development policies, for instance in promoting development models with a carbon

¹⁰⁸ Costa Rica (n 101).

¹⁰⁹ The intermediation provided by the national fund would in fact ensure that payments be tailored to local opportunity costs rather than determined by international carbon prices: if the opportunity cost of avoided deforestation or reforestation activities in a certain area is lower than the price paid by international donors and investors for carbon offsets, the trust fund could reinvest the remaining funding to expand its operation, or use extra incentives for the achievement of co-benefits such as biodiversity protection or rural development.

reduction potential at landscape or regional scales;¹¹⁰ forest PES can also be used to promote other environmental services alongside carbon, as advocated by the COP;¹¹¹ the scheme also offers the flexibility of using other payment modalities alongside cash payments;¹¹² and finally it can be used at different scales to tailor the drivers.¹¹³ Carbon funding and funds for other ecosystem services (e.g. from national actors) could be pooled together to expand protection.

Arguably, this model also has some disadvantages compared to the carbon market. One is that international funds do not reach local stakeholders directly, and the intermediation of the national carbon fund could create inefficiencies due to mismanagement, problems of state capture and corruption, or just plain inability to reach out to stakeholders. These problems are caused by the lack of adequate capacity and good practices in administration.

For the private sector to be looking at investments in forest carbon as part of their portfolio activities, sufficient demand for carbon credits must be created in developed countries which is still a far-off prospect. In the present situation, the limited demand is keeping the price of carbon low and even if the new emission reduction targets are ambitious enough to raise prices in the international market, the opportunity costs of a REDD-plus activity will still be higher in many cases.¹¹⁴ The ensuing shortfall in private sector financing can be compensated if private sector participation is expanded beyond the carbon market.

¹¹⁰ Karsenty and Ongolo suggest that “well-thought ‘assets-building’ PES can be instruments of change in relative prices, remunerating active contributions towards the maintenance of forest cover, and also a vehicle for financing the transformation of agricultural practices that would provide higher earnings to farmers”. In order to do so, they say that PES must be combined with integrated rural development programs while retaining their conditional dimension. Karsenty, Ongolo, ‘What room for payments for environmental services?’ (2012) 18 FORPOL 38.

¹¹¹ Under Costa Rica’s PES scheme, payments vary depending on economic and environmental factors such as the biodiversity importance of a certain area or its watershed functions.

¹¹² Costa Rica and the Dominican Republic use government tax credits and state subsidies to pay landholders for protecting forests.

¹¹³ Mexico, Costa Rica and of the Dominican Republic are examples of large-scale PES schemes, but there are many small-scale PES schemes in operation throughout the developing world; see, generally, Dunn, *Payments for Ecosystem Services* (DEFRA 2011).

¹¹⁴ Fosci, ‘Balance sheet in the REDD+: Are global estimates measuring the wrong costs?’ (2013) 89 *Ecological Economics* 196, at 198.

Step 3: The Sustainable Landscapes Fund

The third step in the development of the NFI is to mainstream environmental sustainability in investments directed to the lucrative markets that are driving deforestation. This should be done at the national rather than international level mainly for practical reasons.¹¹⁵ A Sustainable Landscapes Fund would complete the transition to sustainable landscape governance by channelling investments in a wide range of low-carbon development activities, hence financial support from this fund should be directed to areas with significant human presence and the looming threat of large-scale drivers.

The Sustainable Landscapes Fund would work at two levels: at small and mid-scale it would focus on the provision of subsidised credit at convenient conditions (i.e. long maturities, low interest rates and flexible repayment schedules) to activities that meet certain sustainability criteria. A demonstrable reduction in emissions compared to alternative land-use choices would be the main – though potentially not the only – requirement for the receipt of credit. As seen above, access to credit is a major problem for small producers with little or no collateral, and often small rural loans in developing countries have extremely high interest rates or repayment conditions which discourage risk-taking. Recent initiatives have begun to focus on the provision of credit for low-carbon activities. For instance, in 2010 Brazil launched a ‘Low Carbon Agriculture Plan and Avoided Deforestation to Reduce Poverty in Brazil’, which provides financial assistance to the recipients of low-carbon rural credit in the form of non-reimbursable payments for the provision of environmental services, as well as technical assistance to develop low-carbon farming technologies.¹¹⁶ The Plan also included a R\$1 billion subsidised credit line for small and medium rural producers for activities that reduce deforestation, increase sustainable agriculture and

¹¹⁵ Establishing an international framework of incentives for foreign investments in these sectors would in fact be a legal and political nightmare. Certainly, it would be hard to establish such framework under strained UNFCCC negotiations, especially with countries running against the clock to conclude a binding agreement by 2015. Moreover, the subject would run into ideological criticisms by some countries who vehemently oppose foreign investments in these areas, especially by large multinationals, and that regard the acquisition of land a form of ‘colonisation’. Finally, an international framework of this kind would fail to recognise the deep differences between agricultural development models across countries and may superimpose a particular model of investment.

¹¹⁶ Inter-American Development Bank, Low-Carbon Agriculture And Avoided Deforestation To Reduce Poverty In Brazil (IDB 2010) Doc Br-X1028.

livestock production, expand the area of replanted forests and encourage the recovery of degraded areas.¹¹⁷

The Sustainable Landscapes Fund could also work at larger scales to draw foreign direct investments into export-oriented rural and forestry activities that meet sustainability criteria. The idea that private investments are central to the sustainability agenda has long been recognised in the international community.¹¹⁸ Investors' returns would thus come primarily from low-carbon forestry and agricultural enterprises, with REDD-plus funding used to increase profitability, reduce risk or both. Foreign investments could benefit from risk-transfers measures such as guarantees that limit losses in case of unsuccessful investments, or insurances against specific risks connected to the activity (e.g. operational, market, regulatory or reputational). This option would reduce MRV requirements and “avoid the thorny issue of baseline/reference setting”.¹¹⁹ A similar idea was put forward by a team of international experts in 2012 as an alternative to REDD-plus.¹²⁰

Alternatively, the profitability of sustainable investments could be increased by providing a ‘carbon premium’ based on fully measured results. This way, the mechanism would simply provide a separate funding channel that integrates the PES scheme with international investments. Attention should be paid on how the carbon premium is shared between investors and local producers, depending on whether the costs of switching to sustainable modes of production is borne by the first (e.g. through higher prices) or by the latter (i.e. through higher running costs vis-à-vis stable international prices). This option faces the same MRV challenges as the CDM approach because the provision of *ex post* results-based payments to international investors and/or domestic producers requires a detailed monitoring of emission

¹¹⁷ The programme was financed with R\$1 billion for the 2010-2011 harvest which increased to R\$1.6 billion in 2011-2012. IPAM, *Brazil's “Low-Carbon Agriculture” Program: Barriers to Implementation* (IPAM 2012) <www.gcftaskforce.org/documents/brazil's_low-carbon_agriculture_program.pdf> Accessed 12 February 2014.

¹¹⁸ UNDESA, *Monterrey Consensus on Financing for Development* (UNDESA 2003) 9.

¹¹⁹ Karsenty (n 98) 34.

¹²⁰ Their proposal, called ‘Inari’, recommended establishing an autonomous non-profit institutional framework to regulate financial flows. Munden et al, *Inari: A proposal for financing sustainable land use at scale* (Munden Project 2012) <www.fao.org/docrep/016/ap076e/ap076e.pdf> Accessed 12 February 2014.

reductions and sequestrations as well as the setting of accurate baselines.¹²¹ If investments are assessed on their overall sustainability as opposed to their carbon impact, the task of the national monitoring authority would be particularly challenging. Sustainability criteria would have to be developed and *ad hoc* arrangements made to provide extra premiums for non-carbon benefits.

This form of PPP could concentrate on areas where long-term investments create a win-win-win outcome for investors, local partners and the environment, such as agricultural intensification, agroforestry, non-timber forest products or small-scale sustainable forest management. Besides the provision of incentives, further support could come from the Governance Fund to collect and disseminate information related to sustainable activities across geographical areas, and build local entrepreneurial capacity. Such information could also be used to create a registry of activities that seek capital investments, matching local entrepreneurship with national and international investors. Where there is a substantial discrepancy between the size of the producer and that of the investor, intermediary services could be provided to either aggregate fragmented funding sources or to micro-manage large investment funds (which would be distributed to smallholders).¹²² An example of the services that can be provided by public sector partners to the private sector is given by the World Bank's Forest Investment Programme. The FIP is channelling climate finance to support large-scale private investments as grants, concessional loans and guarantees.¹²³ Furthermore, it is providing financial advisory services to private partners and making sure that such projects fit in the framework of a broader low-carbon development strategy.¹²⁴ This way, private sector actors may perceive

¹²¹ Incidentally, if payments are accorded based on the international price of carbon, some investors could benefit from incongruously high profits, which may be perhaps ethically questionable but which would not affect the financial viability of the programme.

¹²² Munden et al (n 120) 3-4.

¹²³ See CIF, *Incentivizing the Involvement of the Private Sector in REDD+: A review of early experiences and lessons learned in the Forest Investment Program* (World Bank 2013).

¹²⁴ As characterised in the national Forest Investment Plan prepared by governments with support from the FIP and inputs from the private sector and civil society. For further information, see chapter 4 section 3.

REDD-plus as a business opportunity or an instrument to help manage regulatory risks.¹²⁵

By focusing on foreign investments, this last step of the funding process spans beyond REDD-plus and dovetails with rapidly changing economic dynamics. Over the last few decades, most developing countries have made policy and regulatory choices to attract foreign investments, and with the recent liberalisation of land markets this trend has spread to agriculture; yet this policy is currently challenged by some developing countries that adopted protectionist policies in the agricultural sector.¹²⁶ These political dynamics must be taken into account as they are likely to affect international investments. Moreover, it is unclear whether investments in sustainable production models will be competitive in a global context in which the priority seems to lie with increasing agricultural supply to meet booming demand.¹²⁷ Lack of information about profits and risks is likely to hurt private sector engagement in low-carbon activities in the short term, particularly vis-à-vis the uncertain returns of sustainable activities. Additional regulations in importing markets such as mandatory certification and labelling schemes help create demand for sustainably sourced products.¹²⁸

Despite the challenges, this model has great potential. Its main advantage is that it could help bridge the financial gap affecting REDD-plus. By leveraging private capital from outside the carbon market and harvesting the revenue-generating potential, the Sustainable Landscape Fund reduces the opportunity cost of REDD-plus and has the potential of multiplying the impact of COP-mandated climate funds. Moreover, this option targets investors interested in stable and profitable investments whereas carbon market is likely to attract speculators interested in high-risk volatile

¹²⁵ CIF (n 123) 4.

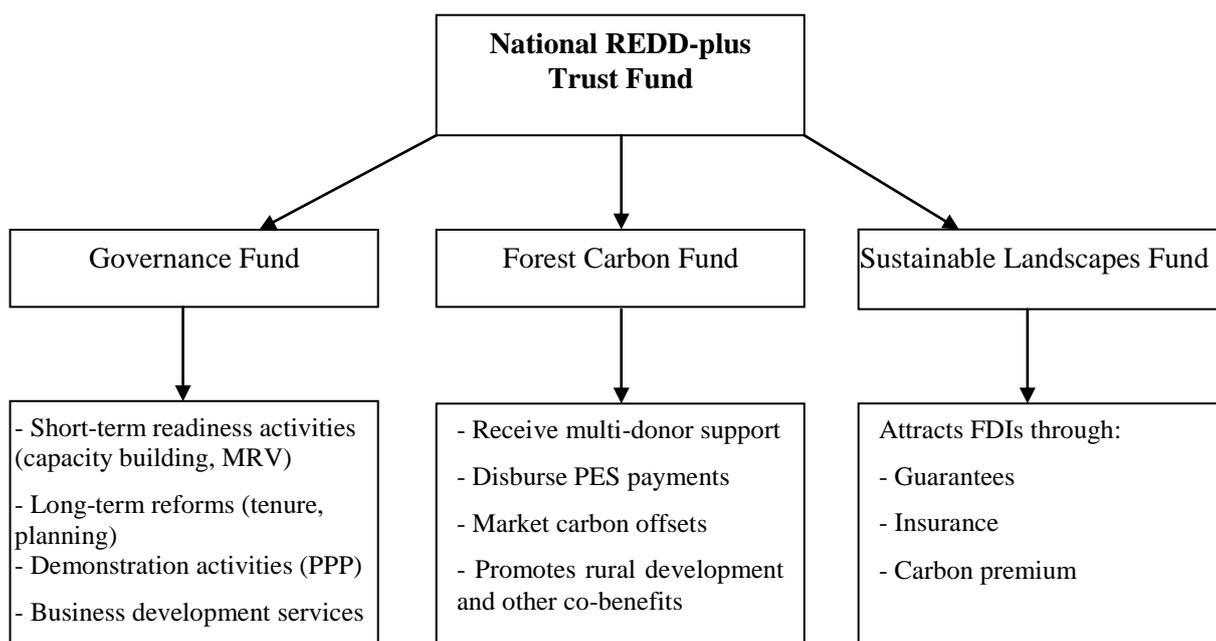
¹²⁶ For instance, Argentina's Land Law of 2011 limits established that total foreign ownership of rural land cannot exceed 15 percent of the country's total land mass and that any particular individual or entity can acquire a maximum of 1,000 hectares of rural land. Government of Argentina, Régimen de Protección al Dominio Nacional sobre la Propiedad, Posesión o Tenencia de las Tierras Rurales (2011) Law 26.737.

¹²⁷ International Resource Panel (ed), *Assessing Global Land Use: Balancing Consumption with Sustainable Supply: A Report of the Working Group on Land and Soils of the International Resource Panel* (UNEP 2014).

¹²⁸ Council Regulation (EC) 995/2010 of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market [2010] OJ L295/23.

commodities.¹²⁹ Long-term non-speculative investments may provide lower but more secure returns for large investors such as pension funds¹³⁰ since agricultural and forest commodities are in a positive investment trend given the predicted rise in global demand.¹³¹ Furthermore, this option would use tools and procedures that are familiar to investors and would fit into existing investment strategies, such as those used to hedge risks connected to annual price variability (e.g. futures contracts).

Fig. 2: The organisational structure of the National Financial Infrastructure



The present chapter has argued that the establishment of a NFI with *ad hoc* rules, procedures and organisational arrangements is central to the operation of REDD-plus, and has shown that developing countries are converging on the use of national

¹²⁹ Munden et al (n 124) 5.

¹³⁰ There is a risk of seeing developed nations as channelling their financial commitments through ‘revolving doors’ if the money is used to provide extra incentives for investors such as pension funds, this would effectively mean that resources will be transferred from the developed country treasury to the developed country pension fund, with little benefit for the developing nations. Why this matter deserves attention, its extent should not be overstated because the profitability of the supported activity must be intact; the result could be instead a win-win situation for developed and developing nations: the first would reduce their net transfer of resources to developing nations, participating in their creation of wealth, while the latter may attract larger and more stable capital investments in strategic sectors with potential positive consequences on trade issues.

¹³¹ Chapter 2 section 1.

funds. Extensive experience with national funds suggests that these can be an effective NFI provided that they are transparent, autonomous, non-bureaucratic and subjected to high fiduciary standards. More importantly, they must be able to distribute payments in forms and at scales that are suitable to the recipients' needs.

Various financial instruments are compatible with the national REDD-plus fund option; these can be combined using the roadmap laid out in the last section. Grant payments in the first stage could support governance reforms. A fund-based PES scheme could deliver results-based payments while conventional micro-credit can tackle small-scale drivers. Finally, to contrast the industrial drivers of forest loss risk-transfer incentives should be used to attract private sector investments in low-carbon activities alongside positive asset-based incentives. The Sustainable Landscape Fund would lay the ground to extend sustainability finance beyond REDD-plus to other sectors that are crucial to achieve sustainable landscape governance and to make the landscape an integral part of a low-carbon economy.¹³²

¹³² As envisioned, e.g., in UNEP, *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* (UNEP 2011).

Conclusions

Climate change and deforestation are among the most pressing environmental challenges of the twenty-first century. The first dramatically demonstrates the scale of the human impact on the biosphere. The second epitomises our apparently insatiable need to exploit, transform and impoverish the natural world and the consequent loss of those ecosystem services that we rely upon for our well-being. It has become clear that these two problems are interconnected in many ways. This thesis has considered how forest loss is contributing to a warming world and it has sought to identify some of the measures to reverse the current trend. In a world soon to be inhabited by 11 billion people, all legitimately aspiring to reach Western living standards, the rationale of activities leading to forest loss cannot be reversed. But, with the right technological, legal and policy developments, its environmental impact can be changed.

REDD-plus is the first global effort aimed to address these two problems. It intends to create a multi-level governance system that challenges the economic rationality of environmental degradation, achieves a balanced trade-off with development, and improves the capacity of State and non-state actors to govern the commons effectively and efficiently. These objectives are shared by the majority of MEAs and other international environmental instruments. However, REDD-plus' incentive-based approach offers a fresh perspective and new insights on these important issues. This chapter draws some conclusions on two overlapping but distinct matters. Section 8.1 sums up the lessons learned in this thesis about pattern of international law-making emerging under REDD-plus, which is based on the interplay between incentive-based soft law and bottom-up best practices; it pinpoints its novel characteristics and discusses its (demonstrated and expected) effectiveness compared to traditional prescriptive regulatory instruments. Section 8.2 explores how these patterns can be combined in a consistent framework of multi-level governance, clarifying the role of State, sub-national and supra-national actors in the development and implementation of incentive-based regulations in a domestic context. Building

on these observations, section 8.3 takes stock of the present situation and assesses options for the development of REDD-plus, providing recommendations for international legal scholars and policy makers. It finally considers the possible repercussions of this legal experiment not only on the future of the climate negotiations, but on the direction of international environmental rule-making as a whole.

8.1. An emerging model of international governance

This thesis has shown that the international governance model introduced with REDD-plus has departed from ideas of centralised, top-down global environmental governance still popular among scholars.¹ While moderately successful in the past, top-down governance seems unable to address the more ambitious, politically demanding and economically complex environmental problem of this century. The failed attempt to conclude a global forest treaty and the current impasse in the climate change regime highlight the limits of this model. REDD-plus' incentive-based ethos is a new development in a trend towards 'softer' legal approaches. Instead of creating legally-binding obligations and sanctions for non-compliance, the programme introduces aspirational goals, guiding principles and cooperative tools that foster voluntary action.

'Positive incentives' create political support for climate change mitigation and facilitate the transition to sustainability in forest landscapes. Developing countries are under no obligation to reduce emissions but, using results-based payments, they are encouraged to find more efficient forest and land management practices. 'Policy approaches' define the goals and principles for action. The COP establishes technical requirements (forest monitoring), basic institutional and organisational requirements (focal points and national strategies) and vague minimum standards (the safeguards). On top of that, readiness activities create a cooperative platform for technical and financial support between developing countries, developed countries and specialised

¹ See, e.g., Palmer, 'New Ways to Make International Environmental Law' (1992) 86(2) *American Journal of International Law* 259; Cruickshank, Schneeberger, Smith, *A Pocket Guide to Sustainable Development Governance* (2nd ed., Commonwealth Secretariat 2012) 34-61.

multilateral organisations. This creates a process of international law-making based on the interplay between soft-law and bottom-up best practices which privileges flexibility over harmonisation, fosters national ownership of governance reforms and encourages progressive improvement through transparent and participative international assessment.

Neither financial incentives nor policy and technical assistance are new to international environmental law, but the scale at which they are being used in REDD-plus and their relative importance vis-à-vis the absence of legally binding obligations is unprecedented. This new pattern of cooperation in international environmental law is still at the early stages and it is thus difficult to assess its effectiveness. Moreover, as centralised forms of global governance exist only in theory, speculating on the validity of one approach over another is of little use. This does not mean that international legal scholars should desist from this pursuit: to the contrary, the conceptualisation of soft, incentive-based and bottom-up legal approaches proposed in this research should hopefully encourage international legal scholars to dedicate more attention to the rapidly evolving nature of these regulatory patterns, analyse their impact and guide their further development.

In this light, bearing in mind the partiality and provisionality of the assessment at this stage, this research has identified some clear advantages in using the soft approach epitomised by REDD-plus:

(i) Political advantage

The difficulties encountered by past international efforts to regulate forest management was often due to the developing countries' resistance to a perceived 'post-colonial' influence on economic sectors central to national development (agriculture, food, timber); hence detailed prescriptions on domestic policy would have sat uncomfortably with the voluntary nature of the programme. Fostering perceptions that economic incentives are not used to dictate domestic policy is essential to avoid the re-ignition of old political conflicts. By taking a soft, non-prescriptive approach, REDD-plus faces less political resistance to measures that influence sensitive domestic governance issues.

(ii) Legal advantage

The focus on framework financial rules and broad guidelines for implementation reduced the intrinsic complexity of REDD-plus and allowed negotiations to progress faster. Flexibility is built into the programme to allow a gradual emergence of detailed guidance and best practices through a learning-by-doing approach. Participant countries are expected to abide by certain standards or follow certain procedures (e.g. on baseline setting, measuring and reporting, transparency, stakeholder participation, policy integration, multi-level coordination and so forth), but these are expressed in generic, non-binding form. This avoids dissuading country participation while allowing progressive improvement of standards and procedures in light of experience. This law-making model expands the framework approach that has been widely used in international environmental law by creating a framework (for forest protection and sustainable management) within a framework (the UNFCCC).

(iii) Methodological advantage

Many observers noted that there cannot be a ‘one-size-fits-all’ approach to REDD-plus implementation² and the COP made clear that developing countries must be free to decide what options are most suited to their national circumstances and capabilities.³ International processes do influence the development of domestic policies but lower-level actors have considerable freedom to develop locally-appropriate approaches. This minimises problems of ‘blueprint thinking’ that have tainted international cooperation:⁴ the idea that a particular policy is intrinsically effective and must be applied across the developing world, regardless of national circumstances.⁵

² Chapter 7 (n 109).

³ UNFCCC COP Decision 1/CP.16 (2010) UN Doc FCCC/CP/2010/7/Add.1, paragraph 74. This is consistent with, inter alia: Rio Declaration on Environment and Development (adopted 14 June 1992) 31 ILM 874, principle 11.

⁴ The history of international development aid is rife of cases where blueprint policy solutions failed. Note, for example, the problems of the World Bank’s structural adjustment programmes: Schatz, ‘Structural Adjustment in Africa: A Failing Grade So Far’ (1994) 32(4) *Journal of Modern African Studies* 679.

⁵ Nagendra, Ostrom, ‘Polycentric governance of multifunctional forested landscapes’ (2012) 6(2) *Int. J. of the Commons* 104.

At the same time, the establishment of permanent platforms to exchange information (between countries, experts, NGOs and stakeholders) and develop best practices, the constructive and transparent assessment of government action by legitimate bodies (e.g. the multi-stakeholder steering committees of readiness institutions) and the gradual improvement of best practices (e.g. through the review of readiness documents) create a common understanding of the problems and increase the effectiveness and legitimacy of environmental programmes. Multilateral organisations such as the World Bank, UNDP and UNEP have developed considerable expertise on issues of environmental governance and rural development and have contributed greatly to the development of REDD-plus.

(iv) Politico-economic advantage

There are strong domestic challenges to changes in environmental management that are bound to alter the socio-economic *status quo*. The case of the palm oil moratorium in Indonesia shows that domestic opposition from powerful interests can greatly limit the impact of even the most high-profile international environmental initiatives. In order to be successful, domestic policies must be ‘owned’ by government and non-governmental stakeholders. Plans that are superimposed by international institutions fail to meet the needs of local actors and are seen as impositions. By contrast, policies that are negotiated domestically and developed with extensive stakeholder participation have more legitimacy and a better chance of success. Emphasis on participation and equitable benefit-sharing in the safeguards and in the readiness process can change the political economy in favour of REDD-plus.

(v) Economic advantage

The readiness process can also contribute to the achievement of sustainable development through a stepwise process of policy development, assessment and improvement. Fostering a transition to low-carbon development would reduce dependency on international payments, solving in part REDD-plus’ financial gap. Although in the short term pursuing public sector reforms would increase the programme’s implementation costs, these are likely to be compensated by the fact that a more capable State can reduce other cost categories by, e.g. identifying lucrative alternatives to deforestation, improving the design of REDD-plus activities,

promoting economies of scale in implementation, capping profits, reducing conflict and so forth.⁶

The above observations lend force to the argument that legally-binding agreements are not intrinsically more effective than non-legally-binding ones.⁷ It is here submitted that REDD-plus' success will depend not so much on its legal force but rather on whether it is supported with adequate and predictable resources: if economic incentives replace regulatory 'disincentives' (e.g. mechanisms for non-compliance) as motors of implementation, the legal force of the instrument is relatively unimportant. Developing countries have shown in the past that their commitment to genuine governance reform is often just nominal, and that the influx of adequate and predictable incentives is crucial to success. Such incentives must in fact be sufficient to (i) maintain the political will to undertake demanding policy reforms, (ii) overcome the technical and administrative challenges faced in the transition towards low forest emissions, and (iii) support local stakeholders in such transition while maintaining livelihoods and encouraging development.

At the moment, REDD-plus resources are neither adequate nor predictable. By separating public sector governance from actions expected to deliver environmental results, 'phased implementation' ignores that governance reforms happen very slowly and require long-term support.⁸ The current division in phases bears influence on the way participant countries, organisations and observers frame their idea of REDD-plus, think about their participation in the programme and plan their activities. This is counterproductive in many ways: it gives a sense that public policies and measures are confined to the initial stages (readiness) rather than being part of a long-term adaptive process of learning and improvement; it suggests that funding will come from different sources in every phase whereas both market and non-market finance, results-based and non-results-based funding will coexist in all

⁶ For a categorisation and analysis of costs in REDD-plus, see White, Minang, *Estimating the opportunity costs of REDD+: A training manual* (version 1.3, World Bank 2011).

⁷ MacKenzie, 'Lessons from Forestry or International Environmental Law' (2012) 21(2) *RECIEL* 114, at 122.

⁸ Evans, Rauch, 'Bureaucracy and Growth: A Cross-National Analysis of the Effects of "Weberian" State Structures on Economic Growth' (1999) 64(5) *American Sociological Review* 748; Wertz-Kanounnikoff, McNeill, 'Performance indicators and REDD-plus implementation', in Angelsen et al, *Analysing REDD+: Challenges and choices* (CIFOR 2012) 233.

phases (albeit in different proportion); it conveys an idea that in the long-term funding will come in large part from the sale of carbon offsets despite the problems affecting carbon finance; and it fails to differentiate between the types of results-based payments or indeed capture the evolution of the financial framework towards more integrated models of sustainable development finance.

The adequacy of support is also a problem since REDD-plus will likely be underfunded. Positive incentives cannot change the economic rationale of environmental degradation unless they are used as investment capital to promote a transition towards alternative forms of development. But ‘sustainable development’ has remained a vague background concept in REDD-plus discussion and practice. Although developing countries are encouraged to mainstream REDD-plus activities into national development, a systematic application of the principle requires shifting from mere payments for emission reductions to integrated forms of sustainable development finance.

Problems of adequacy and predictability of support can be solved by reimagining the progression of REDD-plus countries from the current situation of unsustainable forest governance to the desired situation of sustainable forest landscapes. In the current phase (1a/1b), REDD-plus is developing and implementing national and subnational strategies, policies and measures in a context of international legal uncertainty. It is at this stage that monitoring and enforcement capacities should be strengthened, tenure laws passed and reforms started, spatial planning processes reviewed and the appropriate financial intermediation established. Support for the implementation of governance reforms can be provided by the Governance Fund using grant-based or output-based payments.⁹ It should be refinanced with conspicuous public-sector funding at long intervals (e.g. 5-year programmes) so as to ensure predictability.

When sufficient progress is made, developing countries can begin experimenting with large-scale results-based activities such as PES programmes or other forms of payments for emission reductions (phase 2). This phase could mark the beginning of outcome-based or impact-based payments, but transactions would still be carried out

⁹ See chapter 7 (n 111).

between developed countries' governments and/or non-profit operators (e.g. foundations, NGOs and other charitable organisations) on one side and centralised financial recipients on the other. Funds could be disbursed through the Forest Carbon Fund but no private international offsetting would be allowed at this stage. Private sector participation could be sought with companies operating in the recipient country, for instance by making certain companies eligible to receive PES incentives. Alternatively, the government could focus on public-private-partnerships and share the results-based incentives it receives with its private-sector partner.

After a sufficiently strong public governance system is in place, countries can introduce private governance mechanisms based on access to international markets. If carbon markets are in operation and accept forest credits, offsetting would be the most immediate form of international financing (phase 3a). Nested implementation would allow direct financing at project-level; alternatively, the Forest Carbon Fund could act as a 'carbon bank' that pools funding and redistributes credits after verification. Finally, international investments in primary commodities could be channelled to sustainable practices using the mechanisms described in chapter 7 (phase 3b).

Table 7: A revised interpretation of the phased approach

#	Function	Main funding source	Conditionality	Implementing agency
1a	Preparation of public governance reforms	Current system	Grants; Output-based	Governance Fund
1b	Implementation of public governance reforms	Consolidated public sector finance (e.g. GCF)	Output-based; Outcome-based	Governance Fund
2	Publicly managed emission reduction programmes (e.g. national PES, PPP)	Public and private funding; bond market	Outcome-based; Impact-based	Forest Carbon Fund
3a	Offset-based emission reduction activities	Carbon market	Impact-based	Forest Carbon Fund
3b	Sustainable rural development activities	Commodity markets	Impact-based	Sustainability Fund

Investing in governance support (phases 1a and 1b) is a no-lose option for REDD-plus. First, public governance reforms advance change in a UNFCCC context characterised by slow and fragmented regulatory development. Second, they raise awareness about forests and REDD-plus within developing countries, increasing the perceived legitimacy of future results-based activities and fostering the internalisation of responsibilities and interests. Third, they lay the ground for the solution of other development and environmental problems in an integrated fashion, improving synergies and tackling the root causes of issues such as biodiversity loss, habitat loss and rural poverty.¹⁰

A further advantage is that governance reforms may survive a collapse of climate negotiations. After the Warsaw COP, the possibility that the negotiations for a post-Kyoto treaty will founder or that they will not be ambitious enough to generate sufficient demand for forest emission reductions is still high. Climate negotiations are progressing slowly and crucial issues, such as quantified emission reduction and limitation targets, have not been properly discussed. This thesis has assumed that some form of agreement will indeed be concluded in the coming years, albeit accepting that such agreement may not change the substantial lack of ambition showed by the major polluters, or the challenges faced by REDD-plus (primarily the financial gap). Under this hypothetical scenario, it is theoretically possible that the various elements of a comprehensive climate change legal regime will be ‘unpacked’ and pushed forward as separate international initiatives despite the obvious technical and political challenges these efforts will face. Were this to happen to REDD-plus, the proposed measures to establish a domestic governance framework could still have long-lasting effects on forest emissions because (a) capable and transparent governments are by definition more likely to take a long-term perspective in the management of natural resources which preserves the services provided by ecosystems for the benefit of their population, and (b) individuals and communities can better protect their local environment if they are empowered through

¹⁰ The synthesis of various environmental and development objectives may progress faster at the domestic level than it does at the international level, where issues of cross-regime coordination are rather cumbersome and scarcely effective. For an overview see Young (ed.), *Regime Interaction in international Law: Facing Fragmentation* (CUP 2012).

mechanisms of participation and government accountability.¹¹ In most cases, gains made in terms of community empowerment, accountability, bureaucratic capacity and transparency are not easily reversed.

8.2. A possible skeletal structure for domestic governance

After analysing the international level, the research has suggested three areas of policy that can act as catalysts for domestic governance reform using the landscape as a physical and conceptual space to achieve sustainable development. Tenure security empowers stakeholders, improves participation and legitimacy, reduces illegality and provides a basis for the functioning of incentive instruments. Spatial planning can promote multi-sector integration, multi-level coordination and multi-stakeholder participation, combining technical and political elements in decision-making. Finally, sound financial intermediation (i.e. accountable, transparent and flexible) is key to the effective, efficient and equitable distribution of results-based and non-results-based incentives for environmental protection, and may lay the ground for attracting private sector investments in sustainable development from sources other than the carbon market.

Measures to address tenure, planning and finance are inter-dependent: taken together, they form a skeletal system of governance which creates the conditions for multi-sectoral, multi-level and multi-stakeholder programme implementation. Figure 3 shows REDD-plus' results-based payments and other sources of sustainability finance as the tip of a pyramid in which the policy catalysts are the building blocks. The progression is made explicit by the arrows beside the governance pyramid which indicate changes from the current situation of unsustainable governance to an ideal situation of sustainability across the landscape. Yet progress is non-linear: each catalyst interweaves with the others¹² and neither the progression through phases nor

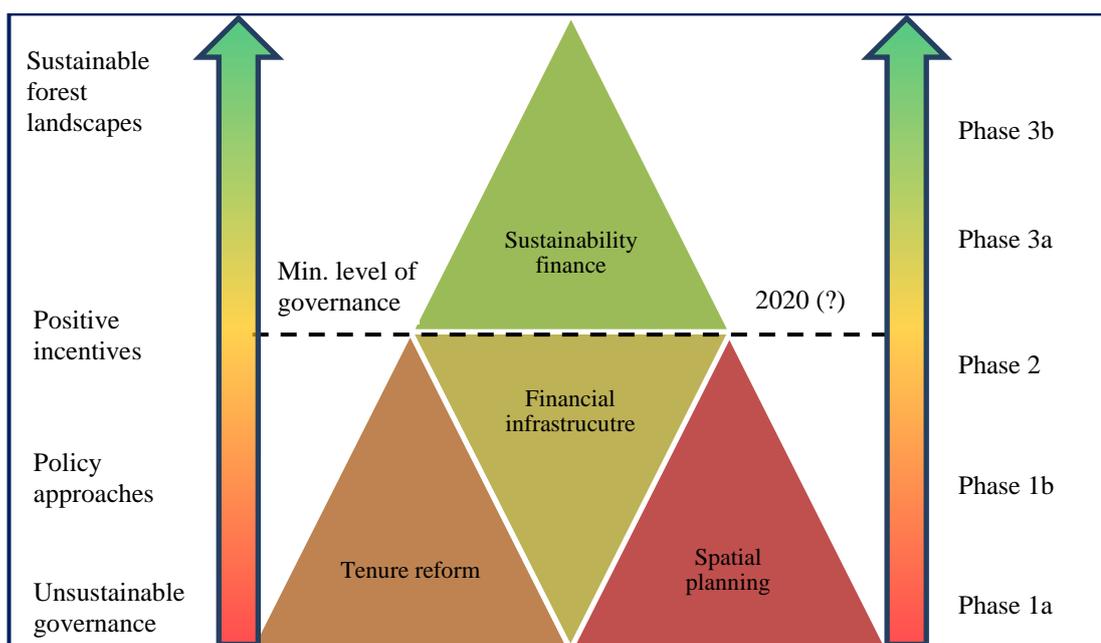
¹¹ This goes a long way to meeting the two requirements for addressing the supply-side of drivers: making production more efficient and distributing benefits equitably.

¹² For instance, although planning builds upon secure tenure rights, the early stages of the process (i.e. field mapping, introduction of participatory practices) are likely to be beneficial for tenure reforms as well. Similarly, the establishment of a sound financial infrastructure can channel international resources to ongoing tenure and planning work, and so forth.

that from policy approaches to positive incentives are rigidly separated. It would thus be advisable to establish dedicated work streams under readiness for the three areas simultaneously. Although advances are slow and unpredictable, efforts should aim to ensure progress towards achieving a minimum level of governance quality for when REDD-plus comes into force in 2020 as part of a post-Kyoto instrument (provided that UNFCCC Parties comply with the timetable set out in the Durban Platform). This would enable developing countries to make the most out of large-scale results-based payments.

These are not necessarily the only areas of public governance where reform may be needed, but it is here submitted that they deserve priority consideration in addressing the drivers of forest loss. Plainly, developing countries must be free to set their own policy priorities and implement reforms that are most suited to their development strategy. Yet despite the different national circumstances and administrative traditions of each country, the considered policy areas have near universal relevance. Tenure systems change, but the importance of tenure security does not; some countries do not have a fully-fledged spatial planning policy but the need to harmonise and coordinate land uses remains; developing countries may be reluctant to financialize their rural economies, but access to economic support for sustainable activities in forest areas is an important issue across the tropics.

Fig. 3: Policy catalysts for sustainable forest landscapes under REDD-plus



The centrality of these areas of policy is somewhat confirmed by the recently published Land Governance Assessment Framework (LGAF), a tool developed to help countries “diagnose and benchmark land governance, and ... prioritize reforms and monitor progress over time”.¹³ The LGAF identifies five areas of governance that broadly overlap with the proposed policy catalysts and, even though it places emphasis on different issues,¹⁴ it also pinpoints many of the problems and priorities that are addressed in this thesis.

The policy catalysts have also been considered in REDD-plus discussions, albeit marginally. Tenure was identified early on as an important barrier to implementation, for the security of property rights was deemed essential to the functioning of carbon offsetting under a CDM-like system. National-level planning became an important theme with the affirmation of large-scale readiness activities, but very little attention has been given to its spatial dimension. Finally, the creation of a national financial architecture has become a popular issue only very recently, with UN-REDD and other multilateral agencies providing assistance in setting up institutional and procedural arrangements, the World Bank looking at jurisdictional-level arrangements, UNEP at institutions to catalyse private sector finance and the Warsaw COP issuing a decision on coordination of support at the national level.

International support through the decentralised system of cooperation, information exchange and technical assistance used in readiness would certainly improve the outcome of domestic governance reform. But even if left to their own devices, developing countries will have to take some measures to clarify tenure, improve spatial coordination of activities and create a system to manage REDD-plus finance. This is either explicitly required by the COP (e.g. in the Cancun safeguards) or logically necessary to the implementation of the programme.

¹³ Deininger, Selod, Burns, *The land governance assessment framework: identifying and monitoring good practice in the land sector* (World Bank 2012) 1.

¹⁴ For instance, taxation matters and issues relating to the management of public lands are not discussed extensively here for they are less relevant to this discussion. Moreover, the document flags an additional area of governance, land valuation, which is not directly considered in this research. This is justified with the fact that valuation matters are scarcely applicable to most forest lands since very often private ownership of such lands is precluded or highly restricted, and even where permitted it has not resulted in a thriving market – hence making the issue of valuation rather marginal.

Part II of this thesis has sought to remove many uncertainties over the role of the State in the development and implementation of incentive-based environmental regulation. It has shown that government action is needed but that it should not be based on command-and-control (C&C) – i.e. the State ought not to be seen merely as a source of top-down regulation and as the sole entity responsible for law enforcement. Instead, the policy catalysts suggest structural adjustments which would align, regulate and harmonise the positions and relations of governments and non-governmental stakeholders. In other words, the State's suggested role is one of coordination and influence (C&I): first, as a proactive facilitator and arbiter of stakeholder relations through regulations that clarify rights, roles, responsibilities and mechanisms for cooperation and dialogue (coordination function); secondly, as the maker of rules and conditions for the distribution of incentives as a way of engender compliance with policy objectives (influence function).

It follows that, in this particular context, Rhodes' suggestion that market-based governance systems tend to 'hollow out' the State is untrue.¹⁵ Under REDD-plus the State has gone through a process of demolition and reconstruction. It has relinquished its ambition to control the forests and seeks instead to exert influence through a mix of regulatory approaches and financial incentives distributed to stakeholders.¹⁶ But the transfer of power from the central government to local stakeholders is only apparent, since in most cases developing States had very little control over forests to begin with. Hence the shift from government to governance simply aligns *de jure* and *de facto* situations. In some cases, States establish a system of governance where there was previously none, and so in practice they acquire authority over previously ungoverned areas.

Another much-cited theory better describes the process underway with REDD-plus. According to Peck and Tickell's description of the State as a proactive proponent of market-based forms of governance,¹⁷ in the current neoliberal paradigm central authorities are not marginalised by market forces, but they readjust their role and

¹⁵ Rhodes, 'The Hollowing Out of the State' (1994) 65 *Political Quarterly* 138.

¹⁶ Peters, Pierre, 'Governance without Government? Rethinking Public Administration' (1998) *J-PART* 223, at 226.

¹⁷ Peck, Tickell, 'Neoliberalizing Space' (2002) 34(3) *Antipode* 380, at 384.

tasks to support market logics as a means of government. REDD-plus is certainly founded upon neoliberal principles of rational-choice theory, privatisation of natural resources, and market transactions; and yet developing countries are crafting a hybrid form of environmental governance in which the State retains more control over decisions concerning development and environmental protection. Markets are seen as a source of funding but not as a source of legitimate decisions. At the same time, the government does not enjoy the same authority as the old controlling State for power is shared with subnational and supranational stakeholders. REDD-plus can thus be characterised as a ‘global public-private partnership’ in which States (and, to some extent, international organisations) partner up with a range of private actors (businesses, NGOS, communities etc.) to conjure an effective system of governance for forest landscapes. As Rosenau states, in fact, governance is “a more encompassing phenomenon than government. It embraces governmental institutions, but it also subsumes informal, non-governmental mechanisms whereby those persons and organisations within its purview move ahead, satisfy their needs and fulfil their wants”¹⁸.

There is a risk that some governments will try to recentralise forest control under REDD-plus, attracted by prospects of financial gain and equally scared by the idea that a distribution of incentives to local stakeholders would drive local empowerment that could generate internal challenges to their dominant role. For this reason, the REDD-plus safeguards and the best practices learned in the readiness process should be applied and monitored consistently over time. Over the long term, however, the choice of governance over government is justified not only with considerations about equity and democratic values, but also to reduce implementation costs, increase political legitimacy and improve the quality of decisions consistent with the overarching sustainable development objective. As developing countries lack coercive *fiat* in the management of their vast forest expanses, the fair and equitable involvement of stakeholders becomes a *conditio sine qua non* to the exercise of authority.

¹⁸ Rosenau, ‘Governance, order, and change in world politics’, in Rosenau, Czempiel, *Governance without government* (CUP 1992).

Clarifying the role of the State in multi-level environmental programmes based on incentives helps dissipate ambiguity in international lawmaking. At one end of the spectrum, arguments that put too much emphasis on the use of incentives are evidently flawed: markets cannot be a substitute for government action and public governance reforms in risk-prone countries cannot be avoided by simply devolving policy delivery to scarcely regulated market actors. At the other end of the spectrum, tendencies to centralise functions and powers at government level are bound to be ineffective and must take into account the need for inclusive participation in decision-making and power-sharing among governmental and non-governmental stakeholders.

These observations contribute to piercing the ideological veil that still characterises the discourse around the role of market and State in environmental regulation: arguments that characterise them as soldiers on opposite sides of the regulatory battlefield are no longer credible. International legal scholars should investigate the appropriateness of regulatory choices in shaping a balanced or hybrid approach which recognises that public policy is the result of the complex interaction between State and non-State actors through a variety of regulatory and incentive instruments. Doing so may help refocus the debate from ideology-prone epistemic schools of thought towards more pragmatic discussions about stakeholder roles and functions, and the regulatory instruments needed to achieve an effective governance mix.

8.3. Concluding remarks

On balance, the thesis provides a somewhat optimistic view of the potential contribution of REDD-plus which contrasts with many critical perspectives available in the literature. It must be remembered that, even after the adoption of the so-called Warsaw framework on REDD-plus, there still is plenty of uncertainty regarding what shape the programme will take. There is no single interpretation of what REDD-plus will look like and it is in fact clear that the programme will encompass a host of approaches - market-based and non-market based, scaled at project, programme and policy level, managed by private and public actors and so forth. In this respect, the vague wording of the UNFCCC COP decisions calling for a plurality of approaches from a variety of funding sources may not just be the product of scarce analytical

and practical understanding of the programme or merely the result of a lack of agreement by the Parties, but a strategic choice to design a broad and flexible framework.

Looking forward, optimism is justified in so far REDD-plus takes responsibility for engendering a broad process of public governance reform. Of course, simply stating that under REDD-plus any such process *should* logically take place to improve effectiveness and that it *can* take place using the current mechanism of international cooperation does not mean that it *will* take place. REDD-plus is a high-risk, high-return legal experiment. If taken as a finished product, the programme is certainly disappointing for an international lawyer. Its language is vague, its legal framework incomplete, its provisions lack binding force and monitoring and reporting requirements are inconsistent. Its incentive-based ethos is marred by the lack of resources, and seems vulnerable to blackmail by recipient nations: as soon as payments stop, deforestation will certainly resume. The fact that the programme is being developed amidst legal uncertainty and low ambitions in the climate change negotiations is only a partial excuse. As it presently is, REDD-plus does not stand many chances to substantially reduce forest emissions.

But if seen as an ongoing process, REDD-plus holds some promise. It has drawn from decades of experience in international environmental law, and domestic and local conservation initiatives and it has finally put governance and sustainability at the centre of concern. The ability it has shown to mature and expand its range of operation, to progressively encompass themes that were initially deemed political taboos, to develop best practices and standards and progressively improve them, and to engage multiple stakeholders (from NGOs, the private sector, local communities, indigenous peoples and – more recently – farmers, timber industries and other commodity producers) gives reasons for optimism. One can only hope that this development will continue, through trial-and-error and through cooperation and political confrontation, to smooth the programme's many rough edges.

To this end, this research advances some recommendations for scholars and policy-makers, looking at the lessons learned from REDD-plus and other relevant instruments and initiatives. First of all, there is a need to further study the effectiveness, and contextually identify areas for the improvement of: (a) the international and domestic regulatory mechanisms that promote sustainable

development through a combination of public policies and results-based incentives; and (b) the supporting decision-making processes that enhance North-South as well as South-South cooperation (e.g. looking at current readiness practice). Such investigation must be multi-disciplinary to reflect that complex nature of environmental management problems, and it must rest on a solid evidence base built from the bottom up (e.g. using a grounded theory or comparative methodologies).

Despite the need for further studies, this research sheds light on a number of issues. The analysis of the drivers supports the idea that addressing environmental, social and economic challenges in an integrated fashion and using ambitious deliverables geared towards a profound transformation of natural resource governance is likely to be a more effective strategy than one focusing on narrowly defined, and apparently less ambitious, legal provisions. A long-term perspective is thus needed whereby in order to achieve transformative change investments in governance capacity must be front-loaded; in the case of REDD-plus, this means that developed countries must be ready to provide adequate and predictable support for public sector reforms as an investment into sustainability, even if they do not yield immediate environmental benefits. The results-based principle must thus be applied judiciously, developing goals and methodologies that are appropriate for the various phases of programme implementation.

Moreover, the thesis shows that in order to achieve sustainable development, scholars and policy-makers must develop mechanisms to enhance the mutual supportiveness of different environmental, human rights and development instruments. In particular, mutual supportiveness must be ensured both at the international level (e.g. through consistent and cross-referenced provisions, platforms for cross-regime cooperation, common monitoring and reporting obligations and so forth) and at the domestic level (e.g. through transversal measures that facilitate the harmonised implementation of various instruments, such as the creation of coordination bodies, the use of policy tools such as spatial planning, the recognition and protection of stakeholder rights, and the use of incentives). The path leading REDD-plus into the landscape epitomises the raising awareness of the need to adopt a more integrated approach and can provide a conceptual basis for the coordination of so far distinct legal initiatives.

A further lesson from this research is that forest loss (and by extension poor environmental management) is as much driven by a short-term economic logic as it is caused by poor management in the public sector. The thesis has suggested three policy catalysts for domestic governance reform laying out detailed yet flexible recommendations for government intervention; while still rudimentary, the policy catalysts highlight the essential functions of a good governance framework: (1) the definition of the positions and the protection of the rights of the actors participating in the governance process; (2) the creation of solid mechanisms to ensure dialogue and the facilitation of the negotiation of trade-offs between competing interests; and (3) the establishment of a system that delivers financial and technical support for the transition to sustainable development. Building on this analysis, legal researchers should set out measures for governance reform on a country-by-country basis, and help solidify best practices for fair and effective stakeholder participation consistent with the emerging role of the State as Coordinator and Influencer. On top of that, international policy-makers must identify early on the political and politico-economic hurdles to the implementation of such reform and commit the necessary political and financial capital to generate forward momentum for change.

Unsurprisingly, the effectiveness of REDD-plus will depend on the correct realisation of abstract ideas of sustainability, the application of good governance principles, and the rational division of competences between actors operating at different levels. Most importantly, and most worryingly, success will also depend on the advancement of the climate change regime. Although public sector reforms initiated under REDD-plus should be beneficial regardless of the fate of the UNFCCC regime, a rapid and drastic reduction in deforestation can hardly be envisaged outside this context. Moreover, even if successful, REDD-plus' contribution to avoiding dangerous climate change would certainly be insufficient on its own. However, the completion of the REDD-plus rulebook at the latest COP has contributed, if marginally, to the positive continuation of the negotiations. In this sense, from being a source of disagreement in international law, forests have become a vehicle for consensus thanks to the soft approach introduced by REDD-plus.

This legal experiment may well influence the future development of international environmental law. If it succeeds, instruments based on positive economic incentives and results-based payments may become the norm in international environmental

law-making. If it fails, other innovative sources of finance and forms of cooperation will have to emerge. In either case, the emphasis on issues such as public governance, participation, decentralisation and the economic valuation of nature's services is likely to remain as REDD-plus has shown that neither pure market approaches nor pure governmental approaches to multi-level environmental governance are effective.

Over the past few decades, we have entered an era of unprecedented human influence on the natural environment. Such is the extent of our impact that scientists have called this era the 'anthropocene'.¹⁹ The scale and complexity of these new environmental challenges demand that the tools and approaches we use to solve them evolve with the same rapidity as the circumstances we face. Law and policy, it seems, are under constant pressure to change, adapt and improve to catch up with problems moving at unprecedented speed. REDD-plus follows the process of rapid evolution that has marked the history of environmental law. It continues the shift towards soft-governance mechanisms, whereby old ideas of centralised authority (both in the international legal system and at the domestic level) are replaced by a system of governance based on a mix of prescriptive and incentive instruments. The next few years will tell if this is the right avenue to manage global environmental change and achieve sustainable development.

¹⁹ See, e.g., Ehlers, Craft, *Earth System Science in the Anthropocene* (Springer 2006).

Annex A: Readiness preparation in 35 countries with highest deforestation

Table 8. Deforestation rates and readiness in developing countries

#	Country	Annual net change rate (2005-10) ~		R-PP [^]	National REDD+ strategy [^]	Investment Plan [^]
		1000ha/yr	%/yr			
1	Brazil	-2194	-0.42			X
2	Indonesia	-685	-0.71	X	X	X
3	Nigeria	-410	-4.00	X		
4	Tanzania	-403	-1.16	X	X	
5	Zimbabwe	-327	-1.97			
6	Democratic Republic of Congo	-311	-0.20	X	X	X
7	Myanmar	-310	-0.95			
8	Bolivia	-308	-0.53			
9	Venezuela	-288	-0.61			
10	Argentina	-240	-0.80	X		
11	Cameroon	-220	-1.07	X		
12	Mozambique	-211	-0.53	X		
13	Ecuador	-198	-1.89			
14	Paraguay	-179	-0.99			
15	Zambia	-167	-0.33			
16	Mexico	-155	-0.24	X		X
17	Peru	-150	-0.22	X		
18	Papua New Guinea	-142	-0.49	X		
19	Ethiopia	-141	-1.11	X		
20	Cambodia	-127	-1.22	X		
21	Angola	-125	-0.21			
22	Honduras	-120	-2.16	X		
23	Botswana	-118	-1.01			
24	Ghana	-115	-2.19	X		X
25	Colombia	-101	-0.17	X		
26	Uganda	-88	-2.72	X		
27	Malaysia	-87	-0.42			
28	Chad	-79	-0.67			
29	Mali	-79	-0.62			

30	Lao P. D. R.	-78	-0.49	X		
31	Namibia	-74	-0.99			
32	Nicaragua	-70	-2.11			
33	Burkina Faso	-60	-1.03			X
34	Madagascar	-57	-0.45	X		
35	Guatemala	-56	-1.47	X		
#	Total annual net change	-8473	-	-	-	-
#	World net change	-5581	-	-	-	-
#	World net losses	-10229	-	-	-	-

Source: FAO, *Global Forest Resource Assessment 2010* (FAO 2010)

~ 'Net' deforestation is the difference between the deforested area and the area of natural or man-made forest regrowth; it can be expressed in absolute terms (hectares) or in terms of relative change (percentage points).

^ Documents published as of December 2013

Annex B: Public governance in the sampled countries

World Governance Indicators 2010 (table 9)

The Worldwide Governance Indicators are a measure of governance used by the World Bank. It includes six aggregate criteria: voice and accountability (includes political freedom, freedom of expression, freedom of association, and a free media); political stability and absence of violence/terrorism; government effectiveness (includes the quality of public services, civil service, policy formulation and implementation); regulatory quality (ability of the government to formulate and implement sound policies and regulations); rule of law (extent to which agents have confidence in and abide by the rules of society); and control of corruption (extent to which public power is exercised for private gain).¹ Each criteria is based on hundreds of indicators obtained from different sources, including survey respondents, NGOs, commercial business information providers, and public sector organizations.² The six criteria are assessed in percentile terms and split in six tiers: 0 to 10 = extremely poor performance; 11 to 25 = poor performance; 26 to 50 = bad performance; 51 to 75 = mediocre performance; 76 to 90 = good performance; 91 to 100 = very good performance.³

World Development Indicators 2013 (table 10)

The World Development Indicators (WDI) is the primary World Bank collection of development data compiled from officially-recognized international sources, and including over 800 indicators for each assessed country.⁴ The index considers two areas, each comprising five goals. The first area is 'Policies for social inclusion and equity' and includes the following goals: (a) gender equality, (b) equity of public

¹ World Bank, 'Worldwide Governance Indicators' World Bank (2013) <<http://data.worldbank.org/data-catalog/worldwide-governance-indicators>> Accessed 8 February 2014.

² Kaufmann, Kraay, Mastruzzi, *The Worldwide Governance Indicators: Methodology and Analytical Issues* (World Bank 2010) 2.

³ Author's interpretation: the World Bank does not explicitly define each tier.

⁴ 'World Development Indicators 2013' (World Bank 2013) <<http://wdi.worldbank.org/table/5.9>> Accessed 8 February 2014.

resource use, (c) building human resources, (d) social protection and labour, and (d) policies and institutions for environmental sustainability. The second area is 'Public sector management and institutions' and includes: (a) property rights and rule-based governance, (b) quality of budgetary and financial management, (c) efficiency of revenue mobilization, (d) quality of public administration, and (e) transparency, accountability, and corruption in the public sector. The score reported below are the average of the individual scores for each goal. The rating scale ranges from grade 1 to 6: 1 to 1.9 = Unsatisfactory for an extended period; 2 to 2.9 = Unsatisfactory; 3 to 3.9 = Moderately Unsatisfactory; 4 to 4.9 = Moderately Satisfactory; 5 to 5.9 = Good; 6 = Good for an extended period.

Corruption Perception Index 2013 (Table 11)

The Corruption Perceptions Index (CPI) is a measure of the perceived levels of public-sector corruption in 183 countries. The CPI is compiled annually by the NGO Transparency International since 1995 and draws on assessments and business opinion surveys carried out by independent institutions and relating to 'bribery of public officials, kickbacks in public procurement, embezzlement of public funds, and questions that probe the strength and effectiveness of public-sector anti-corruption efforts.'⁵ In 2013, 177 countries were assessed using a scale that ranges from 0 (highly corrupt) to 100 (very clean). Countries are also ranked in descending order of corruption.⁶

Global Integrity Indicators 2010 (Table 11)

The Global Integrity Report and Global Integrity Index (GII) provide a quantitative assessment of 'the access that citizens and businesses have to a country's government, their ability to monitor its behaviour, and their ability to seek redress and advocate for improved governance.'⁷ In order to do so, the research uses over 300 indicators that are then aggregated to generate a country scorecard. The indicators are organized into six categories: civil society, public information and

⁵ 'Corruption Perceptions Index: Corruption around the world in 2013' (Transparency International 2013) <<http://cpi.transparency.org/cpi2013>> Accessed 8 February 2014.

⁶ For a critique of the CPI see: Ashaklock, Connor, *Measuring Corruption* (Ashgate 2007)

⁷ 'Global Integrity Report: 2010 Integrity Indicators Data' (Global Integrity 2011) <<https://www.globalintegrity.org/downloads>> Accessed 8 February 2014.

media, elections, government accountability, administration and civil service, oversight and regulation, and anti-corruption and rule of law.⁸ The GII indicators are scored on a scale from 0 to 100, and the final score of a country is the product of a simple average. Countries are grouped into five performance "tiers": very strong (90+), strong (80+), moderate (70+), weak (60+), and very weak (< 60). The index also uses the same ordinal scale to measure the difference between the country's legal framework for good governance and anti-corruption and its actual implementation and enforcement, called implementation gap; an implementation gap of 0-10 is assessed 'small', 10-20 'moderate', 20-30 'large', 30-40 'very large', and 40 or more is 'huge'.

International Country Risk Guide 2011 (Table 12)

Commercial providers of business information offer an analysis of the challenges and dangers for international business operations. The International Country Risk Guide (ICRG) was created in 1980 by the Political Risk Group. It comprises three subcategories of risk - political, financial, and economic – each having a separate index.⁹ Here we only consider the Political Risk index, which includes twelve variables: government stability, socioeconomic conditions, investment profile, internal conflict, external conflict, corruption, military in politics, religious tensions, law and order, ethnic tensions, democratic accountability, and bureaucracy quality. The index ranges from 0 to 100 and it is broken into categories: a country with a 0-50 is considered to be at very high risk, in the 51-60 range it is high risk, 61-70 is moderate risk, 71-80 is low risk and 81-100 very low risk.¹⁰

⁸ The GII considers 23 sub-categories: Civil Society Organizations, Media, Public Access to Information, Elections, Voting & Citizen Participation, Election Integrity, Political Financing, Government Accountability, Executive Accountability, Legislative Accountability, Judicial Accountability, Budget Processes, Administration and Civil Service, Civil Service Regulations, Whistle-blowing Measures, Procurement, Privatization, Oversight and Regulation, National Ombudsman, Supreme Audit Institution, Taxes and Customs, State-Owned Enterprises, Business Licensing and Regulation, Anti-Corruption and Rule of Law, Anti-Corruption Law, Anti-Corruption Agency, Rule of Law, Law Enforcement; *ibid*.

⁹ 'International Country Risk Guide, January 2011' (PRS 2011) <http://www.prsgroup.com/ICRG_TableDef.aspx> Accessed 8 February 2014.

¹⁰ 'International Country Risk Guide Methodology' (PRS 2011) <www.prsgroup.com/PDFS/icrgmethodology.pdf> Accessed 8 February 2014.

Euromoney Country Risk 2010 (Table 12)

The Euromoney Country Risk (ECR) assessment is prepared by an online community of economic and political experts. The overall score is an average of the following categories: political risk, economic performance, structural, debt indicators, credit rating, access to bank finance/capital markets.¹¹ The assessment scale contains five tiers: score 80-100: stable and predictable (the political system is stable and the role of government transparent and predictable); score 65-79.9: stable but moderately unpredictable (the political system is stable but may be subjected to changes and is affected by corruption and lack of transparency); score 50-64.9: moderately stable and moderately unpredictable (the political system is usually stable but rather unpredictable, corrupt and not transparent); score 36-49.9: moderately unstable and unpredictable (the political system is opaque, corruption widespread, the government is to understand and changes in administration are common); score 0-35.9: unstable and unpredictable (the political system is usually unstable, changes in the administrative government frequent, and the rule of law absent).

¹¹ 'Euromoney Country Risk Methodology' (Euromoney Institutional Investors 2014) <www.euromoneycountryrisk.com/Methodology.aspx> Accessed 8 February 2014.

Table 9: Worldwide Governance Indicators 2010

Country Name	Control Corrupt.	Gov. Effectiv.	Political Stability	Regulat. Quality	Rule of Law	Voice & Account.
Angola	5/100	15/100	36/100	5/100	15/100	36/100
Argentina	19	7	17	19	29	57
Bolivia	27	43	30	22	16	45
Botswana	79	67	89	74	70	64
Brazil	56	50	48	55	52	61
Cambodia	14	22	41	39	17	19
Cameroon	7	19	27	21	17	18
Chad	6	5	17	13	3	10
Congo, Dem. Rep.	4	1	3	6	1	7
Congo, Rep.	10	11	31	8	13	15
Colombia	42	57	8	64	44	45
Ecuador	28	37	27	15	12	38
Ethiopia	32	40	7	14	31	12
Guatemala	31	26	25	46	15	36
Ghana	56	52	50	56	54	60
Honduras	18	27	35	45	11	33
Lao PDR	15	21	47	22	23	5
Burkina Faso	38	30	26	48	42	37
Malaysia	66	80	45	70	66	38
Mali	25	16	4	36	30	31
Madagascar	31	15	28	31	20	25
Mexico	43	63	24	67	36	55
Mozambique	33	30	59	35	34	43
Myanmar	11	4	18	2	6	4
Namibia	67	59	79	54	60	59
Nicaragua	25	21	36	43	29	32
Nigeria	11	16	3	25	10	27
Papua New Guinea	15	25	26	32	23	47
Paraguay	22	20	20	41	21	44
Peru	43	49	20	68	33	54
Tanzania	22	28	47	37	35	42
Uganda	18	33	19	44	45	34
Venezuela, RB	7	13	18	5	1	22
Zambia	46	38	65	36	43	44
Zimbabwe	5	11	22	2	2	7

Table 10: Institutional capacity: the World Development Indicators 2013

Country name	Social policy & Equity	Public Sector capacity
Angola	2.7	2.3
Argentina	-	-
Bolivia	3.8	3.2
Botswana	-	-
Brazil	-	-
Burkina Faso	3.7	3.7
Cambodia	3.5	2.8
Cameroon	3	2.9
Chad	2.5	2.2
Colombia	-	-
Dem. Rep. of the Congo	2.8	2.2
Ecuador	-	-
Ethiopia	3.7	3.4
Ghana	4	3.7
Guatemala	-	-
Honduras	3.6	3.2
Indonesia	-	-
Lao P.D.R.	3.5	3.1
Madagascar	2.9	2.6
Malaysia	-	-
Mali	3.2	3
Mexico	-	-
Mozambique	3.5	3.4
Myanmar	-	-
Namibia	-	-
Nicaragua	3.8	3.2
Nigeria	3.4	2.9
Papua New Guinea	2.7	3
Paraguay	-	-
Peru	-	-
Tanzania	3.7	3.3
Uganda	3.7	3
Venezuela	-	-
Zambia	3.3	3.2
Zimbabwe	2.4	2.2

Table 11: Measures of corruption and transparency

Country Name	CPI 2013		GII 2010/2011	
	(Score)	(Ranking)	Legal framework	Implement. Gap
Angola	23/100	153/177	84/100	43
Argentina	34	106	97	20
Bolivia	34	106	78	21
Botswana	64	30	-	-
Brazil	42	72	76	18
Burkina Faso	38	83	-	-
Cambodia	20	160	46	28
Cameroon	25	144	69	30
Chad	19	163	-	-
Colombia	36	94	68	41
Dem. Rep. of the Congo	22	154	44	-
Ecuador	35	102	60	32
Ethiopia	33	111	70	46
Ghana	46	63	65	28
Guatemala	38	83	90	47
Honduras	26	140	-	-
Indonesia	32	114	74	35
Lao P.D.R.	26	140	-	-
Madagascar	28	127	-	-
Malaysia	50	53	57	20
Mali	2.8	118	-	-
Mexico	34	106	72	24
Mozambique	30	119	59	31
Myanmar	21	157	-	-
Namibia	48	57	-	-
Nicaragua	28	127	-	-
Nigeria	25	144	73	29
Papua New Guinea	25	144	69	-
Paraguay	24	150	-	-
Peru	38	83	81	23
Tanzania	33	111	75	32
Uganda	26	140	69	54
Venezuela	20	160	61	44
Zambia	38	83	-	-
Zimbabwe	21	157	59	33

Table 12: Political risk of doing business

Country Name	ICRG 2011	ECR 2010	
		Score	Ranking#
Angola	57.5/100	42/100	99/185
Argentina	64.5	48	86
Bolivia (Pl. State of)	59	46	89
Botswana	74.5	40	102
Brazil	69	70	46
Burkina Faso	59	33	129
Cambodia	-	20	152
Cameroon	59.5	29	141
Chad	-	8	176
Colombia	62.5	64	48
Dem. Rep. of the Congo	55.5	34	148
Ecuador	52.5	35	119
Ethiopia	50.5	38	106
Ghana	63.5	44	95
Guatemala (2012)	62.5	38	109
Honduras	60	37	114
Indonesia	59	59	61
Lao P.D.R.	-	16	161
Madagascar	57	32	132
Malaysia	73.5	59	60
Mali	58.5	46	131
Mexico	70.5	69	43
Mozambique	67.5	42	100
Myanmar	46	23	149
Namibia	79	51	77
Nicaragua (2012)	62.5	35	120
Nigeria	46	38	110
Papua New Guinea	59	28	144
Paraguay	55	50	79
Peru	62.5	65	46
Uganda	51	39	104
United Republic of Tanzania	64	40	103
Venezuela	46.5	45	92
Zambia	63	37	111
Zimbabwe	42.5	17	155

Annex C: Summary assessment of readiness documents

Table 13: Assessment of nineteen Readiness Preparation Proposals

	1 [^]	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	Sum	
Drivers' analysis																					
Contains a detailed analysis of the direct causes of deforestation	3*	1	3	1	1	3	1	1	3	0	1	3	3	3	1	3	3	3	3	3	37
Contains a detailed analysis of the direct causes of forest degradation	3	1	3	1	1	3	1	1	3	0	1	3	3	3	1	3	3	3	3	3	40
Relates the causes of forest loss to the legal/policy framework and proposes targeted policy responses	0	0	1	1	3	1	1	1	3	0	1	1	3	3	1	3	3	1	3	3	30
Stakeholder participation																					
Identifies relevant stakeholders for REDD-plus	3	3	3	3	3	3	1	3	3	1	3	1	1	3	3	1	3	1	3	3	45
Specifically considers how to engage local stakeholders	3	3	3	3	3	3	1	3	3	1	3	3	1	1	1	1	3	0	3	3	42
Proposes a transparent process for stakeholder participation	3	3	3	3	3	3	3	3	3	0	1	3	1	1	1	1	3	1	1	3	40
Proposes a process to ensure accountability for stakeholder input	0	1	1	3	1	3	0	3	3	0	0	3	0	0	0	0	1	0	1	3	20
Proposes a grievance / dispute resolution mechanism	0	1	0	3	0	1	0	1	3	0	0	3	0	1	3	3	1	0	3	3	23

Land and forest tenure																				
Discusses the situation regarding land and forest tenure, including for indigenous peoples	1	1	3	1	3	1	3	1	1	0	3	3	3	3	1	3	3	1	1	36
Considers the capacity of judicial and non-judicial systems to resolve conflicts and uphold rights	0	1	0	0	0	0	1	0	3	0	0	0	0	1	3	0	0	0	0	9
Forest management																				
Discusses the ability of forest agencies to plan and implement forest management activities	3	0	3	1	1	3	1	1	3	1	3	3	0	1	0	3	3	3	3	36
Considers the role of non-government stakeholders, including communities, in forest management	0	3	3	1	3	3	3	3		3	1	3	3	1	1	1	1	3	3	39
Government coordination																				
Considers REDD-plus in the context of other sector policies, land use plans, and national development plans	3	3	3	3	3	1	3	3	3	3	3	3	3	1	1	3	3	3	1	49
Proposes mechanisms to coordinate REDD-plus across sectors	3	3	1	3	1	3	3	1	1	1	1	1	1	1	3	3	3	1	3	37
Proposes mechanisms to coordinate REDD-plus across levels of government	3	1	1	1	1	3	1	1	3	3	1	1	3	3	3	1	3	1	1	35
Forest law																				
Discusses the current legal and policy framework and seek to promote consistency	3	3	3	1	3	3	3	1	3	1	3	3	0	3	0	1	0	3	3	40

Discusses the ability of law enforcement bodies to effectively enforce forest laws	1	1	3	1	1	1	1	1	3	1	1	3	3	1	1	3	0	3	3	32
Discusses efforts to combat corruption	0	1	0	1	0	1	0	0	0	0	1	1	0	1	0	0	1	0	1	8
Political strategy																				
Identifies the stakeholders with an interested in the forest and lays out a clear political strategy	1	1	1	3	0	3	0	0	3	1	1	1	1	3	0	1	1	1	1	23
REDD-plus revenue management & benefit sharing																				
Proposes a transparent system to track and coordinate international financing of activities related to REDD-plus	3	1	3	0	0	3	0	1	1	0	1	3	0	3	0	3	0	1	1	24
Considers measures to promote fiscal transparency and accountability for REDD-plus revenue management	0	1	0	1	0	1	1	0	1	1	1	1	0	1	0	3	1	1	1	15
Proposes a participatory process to develop systems for REDD-plus revenue distribution and benefit-sharing	1	3	1	1	0	3	1	3	3	1	1	1	0	1	1	1	1	1	1	25
Reviews lessons from past and/or existing systems for managing and distributing forest revenues	3	0	1	1	0	1	0	3	0	1	1	3	0	3	1	3	0	0	1	22
Monitoring and evaluation of REDD-plus																				
Proposes to guarantee public access to information	3	0	3	3	0	3	1	1	3	1	3	3	0	3	1	1	1	1	1	32
Proposes mechanisms for independent oversight of the implementation of REDD-plus activities	1	3	1	1	0	1	0	1	0	1	0	1	0	1	0	0	0	0	0	11

Proposes mechanisms to monitor efforts to address governance challenges	1	3	1	1	0	1	0	0	1	0	3	3	1	3	0	0	1	1	1	21
Implementation costs and times																				
Clearly presents cost-estimates for the various components	3	3	3	3	3	3	3	3	3	0	3	3	1	3	3	1	3	3	3	50
Clearly indicates the times for the implementation of each component	0	0	3	1	1	0	1	1	1	3	1	3	1	3	1	0	1	3	1	25

^ 1 = Argentina; 2 = Cambodia; 3 = Cameroon; 4 = Colombia; 5 = Democratic Republic of Congo; 6 = Ethiopia; 7 = Ghana; 8 = Guatemala; 9 = Honduras; 10 = Indonesia; 11 = Lao PDR; 12 = Madagascar; 13 = Mexico; 14 = Mozambique; 15 = Nigeria; 16 = Papua New Guinea; 17 = Peru; 18 = Tanzania; 19 = Uganda

* The R-PPs are assessed using the following approximation: 3 = the issue is adequately addressed; 1 = the issue is inadequately addressed (e.g. it is mentioned but no solution is proposed); 0 = the issue is not addressed.

~ This value can range from 0 (no document addresses the issue) to 57 (all documents adequately address the issue). Scores: equal to or higher than 45 = the issue is adequately addressed in the large majority of documents; equal to or higher than 35 = the issue is adequately addressed in some countries but not in others; equal to or higher than 20 = the issue has received consideration but most documents do not adequately address it; lower than 20 = the issue is inadequately considered or ignored in most countries.

Table 14: Assessment of six FIP Investment Plans

Country name	Good elements	Less good elements
Brazil	<ul style="list-style-type: none"> • Good analysis of drivers; • Adequate consideration of investments outside the forest sector to reduce pressure; • Measures to promote inter-sectoral coordination, • Analysis of institutional capacity; • Analysis of existing legal and policy frameworks; • Good references to transformational impact; • Good monitoring and evaluation (M&E) section (institutional); • Thorough provisions on consultation; • Clear targets. 	<ul style="list-style-type: none"> • Inadequate political strategy; • Ambitious goals but vague roadmap for implementation (a lot is marked as ‘to be decided’) • Plan limited to the ‘Cerrado’ ecosystem; • Little mention of crime and illegality.
Burkina Faso	<ul style="list-style-type: none"> • Emphasis on decentralisation; • Proposes measure to harmonise and complete legal, policy and institutional frameworks; • Discusses need to capacity building at local and government levels; • Good section on results and indicators; • Combines policy and project action; • Good involvement of local stakeholders; • Adopts landscape approach. 	<ul style="list-style-type: none"> • Vague timetable; • Weak M&E; • Unclear role of private sector; • Insufficient analysis of non-carbon benefits; • Inadequate assessment of institutional risks; • Little mention of illegality and crime.

DRC	<ul style="list-style-type: none"> • Large-scale pilot areas; • Good analysis of drivers (including economic dynamics); • Considers investments to address the underlying causes of forest loss (even if they do not generate emission reductions) at country and local levels; • Proposes measures to coordinate funding sources 	<ul style="list-style-type: none"> • Weak assessment of risks, • Weak monitoring and evaluation, • Limited to pilot areas, little contribution to national policy; • Vague on measures for financial transparency, • Vague on legal framework, • No comprehensive timetable for implementation.
Ghana (draft)	<ul style="list-style-type: none"> • Links to existing international environmental initiatives (FLEGT); • Analysis of existing legal framework (environment, fiscal); • Proposes coordination of funding sources; • Timetable for implementation. 	<ul style="list-style-type: none"> • Weak analysis of drivers and generic policy responses; • Weak analysis of institutional risks; • No specific interventions; • No fund mobilisation strategy; • No financial detail; • No political strategy; • Vague timetable.
Indonesia	<ul style="list-style-type: none"> • Cross-sectoral links and good integration in national policy; • Emphasis on local capacity building; • Seeks to have transformational impact (i.e. lasting change to the development model) and targets SMEs; • Recognises capacity problems in national institutions; • Proposes coordination of funding sources; • Considers social benefits. 	<ul style="list-style-type: none"> • Vague on transparency measure for financial management; • No mention of corruption; • Weak assessment of institutional risks, illegality, law enforcement; • Does not with issues of cross-level coordination and up-scaling from local level; • Does not target industrial drivers.
Mexico	<ul style="list-style-type: none"> • Considers access to financial services for SMEs; • Good analysis of economic drivers, with link to social and 	<ul style="list-style-type: none"> • Does not address institutional capacity risk; • Weak analysis of and response to industrial drivers;

	<p>institutional causes;</p> <ul style="list-style-type: none"> • Good portfolio of possible interventions; • Adequately considers policy harmonisation; • Adequately considers tenure risks; • Considers multi-sector integration 	<ul style="list-style-type: none"> • Inadequate on transparency; • Inadequate treatment of M&E.
--	--	---

Table 15: Assessment of five national REDD-plus strategies

Country name	Good elements	Less good elements
DRC	<ul style="list-style-type: none"> • Puts forward a political vision for the development of the country; • Identifies planning as central tool; • Fosters collaboration with academia and research institutes; • Considers interventions to harmonise laws and policies; • Links policy to the drivers; • Incorporates good governance principles; • Recognises tenure as a major source of conflict; • Analyses implementation across levels; • Adequately considers coordination of funding; • Proposes a transparent system for the management of finance (centralised). 	<ul style="list-style-type: none"> • Does not proposes a system to ensure government accountability; • Does not dedicate attention to governance and institutional capacity; • Weak M&E; • Vague and superficial political strategy; • Proposed activities are generic and framed in ambiguous terms (e.g. promote agricultural intensification); • Fails to draw a link between sectors; • Centralises implementation; • Does not advance a clear political strategy
Guyana (draft)	<ul style="list-style-type: none"> • Links the NRS to other national environmental strategies and 	<ul style="list-style-type: none"> • Does not advance a clear political vision;

	<p>programmes;</p> <ul style="list-style-type: none"> • Seeks to promote participation through consultation; • Seeks to establish a legal assurance system to improve law enforcement and address crime; • Emphasises links and synergies with EU FLEGT; • Seeks multi-sector coordination; • Recognise capacity building needs at government level; • Considers multiple benefits. 	<ul style="list-style-type: none"> • No clear political strategy; • Does not propose a transparent revenue structure; • Does not advance credible policies; • Does not address the drivers; • Does not focus on local capacity building; • Does not have a timetable for activities.
Indonesia	<ul style="list-style-type: none"> • Contains short and medium-term goals; • Considers relationship with other programmes; • Considers subnational level; • Establishes articulated institutional framework; • Promotes inter-institutional coordination through clarity of mandates; • Consider key areas of policy (tenure, planning, law enforcement); • Adopts landscape approach (integration); • Extensive information on participation and safeguards information system. 	<ul style="list-style-type: none"> • Underdeveloped vision; general lack of details; • Inadequate system to ensure transparent financial management; • Vague policy proposals; • Lack a political strategy; • Lacks a specificity on inter-sector and multi-level coordination; • Does not consider institutional capacity; does not consider local capacity; • Clarity of mandates insufficient to avoid/address institutional fragmentation across sectors and levels → no coordination mechanisms.
Philippines	<ul style="list-style-type: none"> • Contains good timetable; • Builds on existing institutional and decision-making structures 	<ul style="list-style-type: none"> • Underdeveloped vision for development; • Builds on existing institutional and decision-making structures

	<p>(no duplication);</p> <ul style="list-style-type: none"> • Adequately analyses interaction with existing legal and policy framework; • Considers drivers and matches policy approaches; • Proposes establishment of a REDD-specific legal framework; • Integrates REDD in sectoral plans; • Establishes national and subnational coordinating bodies; • Considers capacity building needs at national and local scales 	<p>(danger of capture, inefficiency, fragmentation);</p> <ul style="list-style-type: none"> • Does not propose transparent financial management system; • Does not propose detailed benefit-sharing arrangements; • Lacks a clear political strategy.
Tanzania	<ul style="list-style-type: none"> • Links drivers to policy failures; • Aims to coordinate responses and establish transparent financial management system; • Establishes <i>ad hoc</i> institutional structure; • Analyses existing legal and policy framework; • Considers multiple benefits. 	<ul style="list-style-type: none"> • Does not mention coordination of REDD institutions with government; • Inadequate provisions on participation; no mention of institutional risks; • Inadequate analysis of capacity building needs at national and local scales; • Lacks a clear political strategy.

Bibliography

Treaties and agreements

C169 Convention Concerning Indigenous and Tribal Peoples in Independent Countries
(adopted 27 June 1989, entered into force 5 September 1991) 1650 UNTS 383

Convention for the Protection of the World Cultural and Natural Heritage (adopted 16
November 1972, entered into force 17 December 1975) 1037 UNTS 151

Convention on Access to Information, Public Participation in Decision-Making and
Access to Justice in Environmental Matters (adopted 25 June 1998, entered into force
30 October 2001) 2161 UNTS 447

Convention on Environmental Impact Assessment in a Transboundary Context (adopted
25 February 1991, entered into force 10 September 1997) 1989 UNTS 310

Convention on International Trade in Endangered Species of Wild Fauna and Flora
(adopted 3 March 1973, entered into force July 1975) 933 UNTS I-14537

Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere
(adopted on 12 March 1940, entered into force 4 April 1942) 161 UNTS 193

Convention on the Conservation of Migratory Species of Wild Animals (adopted 23 June
1979, entered into force 1 November 1983) 1651 UNTS 28395

Convention on the Rights of the Child (adopted 20 November 1989, entered into force 2
September 1990) 1577 UNTS 3

Convention on Wetlands of International Importance especially as Waterfowl Habitat
(adopted 16 November 1971, entered into force 17 December 1975) 996 UNTS I-
14583

Declaration of the United Nations Conference on the Human Environment (adopted 16
June 1972) 11 ILM 1416

International Convention on the Protection of the Rights of All Migrant Workers and Members of Their Families (adopted on 18 December 1990, entered into force 1 July 2003) 2200 UNTS 3

International Covenant on Civil and Political Rights (adopted on 19 December 1966, entered into force 23 March 1976) 999 UNTS 171

International Covenant on Economic, Social and Cultural Rights (adopted 16 December 1966, entered into force 3 January 1976) 993 UNTS 3

International Tropical Timber Agreement (adopted 27 January 2006 entered into force 7 December 2011) UN Doc TD/TIMBER.3/12

Kyoto Protocol to the United Nations Framework Convention on Climate Change (adopted 11 December 1997, entered into force 16 February 2005) 37 ILM 22

Non-legally Binding Authoritative Statement of Principles for a Global Consensus on the Management, Conservation and Sustainable Development of all Types of Forests (adopted 14 August 1992) 31 ILM 881

Rio Declaration on Environment and Development (adopted 14 June 1992) 31 ILM 874

United Nations Convention on Biological Diversity, Rio De Janeiro, 5 June 1992 (in force 29 December 1993) 1760 UNTS 79 (CBD)

United Nations Convention to Combat Desertification (adopted on 17 June 1994, entered into force 26 December 1996) 1954 UNTS 3 (UNCCD)

United Nations Declaration on the Rights of Indigenous Peoples (13 September 2007 UNGA Res 61/295) (UNDRIP)

United Nations Framework Convention on Climate Change (adopted in Rio de Janeiro on 9 May 1992, entered into force 31 March 1994) 1771 UNTS I-30822 (UNFCCC)

United Nations Millennium Declaration (adopted 8 September 2000 UNGA Res 55/2)

Vienna Declaration and Programme of Action (adopted 12 July 1993) 32 ILM 1661

Regional treaties and agreements

African Convention On The Conservation Of Nature And Natural Resources (adopted on 11 July 2003, not yet in force) E-001395

Convention on the Conservation of European Wildlife and Natural Habitats (adopted 19 September 1979, entered into force 1 June 1982) ETS 104

European Landscape Convention (adopted on 20 October 2000, entered into force 1 March 2004) 1 ETS 176

Treaty on the Functioning of the European Union (adopted 13 December 2007, entered into force 1 December 2009) (Consolidated version 2012) OJ C326

Bilateral treaties and agreements

Letter of Intent between the Government of the Kingdom of Norway and the Government of the Republic of Indonesia on ‘Cooperation on Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation’ (Norway-Indonesia) (26 May 2010)

www.norway.or.id/PageFiles/404362/Letter_of_Intent_Norway_Indonesia_26_May_2010.pdf Accessed 9 February 2014

Letter of Intent between the Government of the Kingdom of Norway and the Government of the Republic of Indonesia on ‘Cooperation on Reducing Greenhouse Gas Emissions from Deforestation and Forest Degradation (2010)

www.norway.or.id/PageFiles/404362/Letter_of_Intent_Norway_Indonesia_26_May_2010.pdf Accessed 9 February 2014

Memorandum of Understanding between the Government of the Cooperative Republic of Guyana and the Government of the Kingdom of Norway regarding Cooperation on Issues related to the Fight against Climate Change, the Protection of Biodiversity and the Enhancement of Sustainable Development (Norway-Guyana) (9 November 2009)

www.regjeringen.no/upload/MD/Vedlegg/Internasjonalt/miljosamarbeid_utviklingsl and/mou__norway_guyana.pdf Accessed 12 February 2014

Protocole d’Accord entre le Gouvernement de la Republique Democratique du Congo et le Programme des Nationaes Unies pour le Developpement Portant Fourniture des Services de Gestion et Autres Services d’Appui au Fonds National REDD+ de la RDC

(DRC-UN-REDD) (27 November 2012) article 1

<<http://mptf.undp.org/factsheet/fund/3CD00>> Accessed 12 February 2014

EU legislation

Council of Europe Recommendation No R (84) 2 of the Committee of Ministers to Member States on the European Regional/Spatial Planning Charter (25 January 1984)

European Landscape Convention (adopted by the Council of Europe at Florence, 20 October 2000, entered into force 1 March 2004) ETS 176

Council Directive 85/337/EEC of 27 June 1985 on the assessment of the effects of certain public and private projects on the environment (1985) OJ L175

Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (1992) OJ L206

Council Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programmes on the environment (2001) OJ L197/30

European Commission 2007/589/EC, Commission Decision of 18 July 2007 establishing guidelines for the monitoring and reporting of greenhouse gas emissions pursuant to Directive 2003/87/EC of the European Parliament and of the Council [2007] OJ L229

Council Regulation (EC) No 2173/2005 of 20 December 2005 on the establishment of a FLEGT licensing scheme for imports of timber into the European Community (2005) OJ L347

Commission Regulation (EC) No 1024/2008 of 17 October 2008 laying down detailed measures for the implementation of Council Regulation (EC) No 2173/2005 on the establishment of a FLEGT licensing scheme for imports of timber into the European Community (2008) OJ L 277

Council Directive 2009/28/EC of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC [2009] OJ L140/16

Council Directive 2009/147/EC of 30 November 2009 on the conservation of wild birds

(2010) OJ L020

Council Regulation (EC) 995/2010 of 20 October 2010 laying down the obligations of operators who place timber and timber products on the market [2010] OJ L295/23

Domestic statutory instruments

Clean Energy Act 2011 (Australia)

Energy Independence and Security Act 2007 (US)

Energy Policy Act 2005 (US)

Food, Conservation, and Energy Act (Farm Bill) of 2008 amending the Lacey Act of 1990, 2008 (US)

Law 26/2007 concerning Spatial Planning (Indonesia)

Lei no. 11.284, de 2 de Marco de 2006 (Brazil)

Lei no. 4.771, de 15 de Setembro de 1965, Código Florestal (Brazil)

Lei no. 7.511, de 7 de Julho de 1986 (Brazil)

Ley General de Desarrollo Forestal Sustentable, Conservación, protección, restauración y aprovechamiento sustentable de los recursos forestales, 2003 (Mexico)

Regulación 128, 18 Octubre 2006 (Ecuador)

Regulación 265, 11 Septiembre 2007 (Ecuador)

Title 17, California Code of Regulations, 2013 amendments (California)

International Conferences

Noordwijk Ministerial Conference on Climate Change (Noordwijk, The Netherlands, 6-7 November 1989)

United Nations Conference on Environment and Development (Rio de Janeiro, 3-14 June

1992) UN Doc A/CONF.151/26 (UNCED)

United Nations Conference on the Human Environment (Stockholm, 5-16 June 1972) UN Doc A/CONF.48/14/Rev.1 (UNCHE)

World Conference on the Changing Atmosphere: Implications for Global Security (Toronto, 27–30 June 1988)

Official international documents

Adaptation Fund Board Decision B.22/23, Operational Policies And Guidelines For Parties To Access Resources From The Adaptation Fund (Amended in November 2013)

CBD Secretariat, Synthesis and analysis of obstacles to implementation of National Biodiversity Strategies and Action Plans: Lessons learned from the review, Effectiveness of policy instruments and strategic priorities for action (2007) UN Doc UNEP/CBD/WG-RI/2/Add.1

CIF, FIP Operational Guidelines (2010) FIP/SC.4/3/Rev.1

CIF, Forest Investment Programme: Investment Criteria and Financing Modalities (2010) FIP/SC.3/4

CIF, Governance Framework for the Strategic Climate Fund (2008)

<http://www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/SCF_Governance_Framework.pdf> Accessed 10 February 2014

CIF, Procedures for the Preparation of Independent Technical Reviews of investment plans under the Forest Investment Program (2011)

<www.climateinvestmentfunds.org/cif/sites/climateinvestmentfunds.org/files/FINAL_Procedures_for_the_Preparation_of_Independent_Technical_Reviews_of_FIP_IPs_November2011.pdf> Accessed 10 February 2014

Committee on Economic, Social and Cultural Rights , General Comment No. 4 on the Right to Adequate Housing, UN Doc EC/12/1991/41 (1991)

ECOSOC, Report of the Ad Hoc Intergovernmental Panel on Forests on its fourth session

(1997) UN Doc E/CN.17/1997/12

FAO, Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (FAO 2012)

FCPF, Resolution PC/10/2011/1 (2011)

FCPF, Resolution PC/12/2012/1 (2012)

Federal Office for the Environment (FOEN), 'Funding Scheme for Bali Action Plan: A Swiss Proposal for global solidarity in financing adaptation' (Berne, 27 May 2008) <http://unfccc.int/files/kyoto_protocol/application/pdf/switzerlandfinancebap091008.pdf> Accessed 9 February 2014

GCF, Guiding Framework and Procedures for Accrediting National, Regional and International Implementing Entities and Intermediaries, Including the Fund's Fiduciary Principles and Standards and Environmental and Social Safeguards (Progress Report) (2014) GCF/B.06/09

GEF, GEF Administrative Expenses: Fees and Project Management Costs External Review (GEF 2011) UN Doc GEF/C.41/07

Global Environmental Facility, GEF Administrative Expenses: Fees and Project Management Costs External Review (GEF 2011) UN Doc GEF/C.41/07

Interpol, Environmental crime: Establishment of national working parties on problems of waste (1996) Res AGN/65/RES/25

Ramsar Convention COP 4, Recommendation 4.7 (1990) REC. C.4.7 (Rev.)

Ramsar Convention COP 10, Resolution X.8 (2008)

REDD+ Partnership (27 May 2010)

<www.oslocfc2010.no/pop.cfm?FuseAction=Doc&pAction=View&pDocumentId=25019> Accessed 9 February 2014

Report of the Secretary-General 'Climate Change and its possible security implications' (2009) UN Doc A/64/350

Report of the UN Conference on Environment and Development (13 June 1992) UN Doc A/CONF.151/26 (Vol. I-III)

Submission from the Governments of Costa Rica and PNG, Reducing emissions from deforestation in developing countries: approaches to stimulate action (2005) UN Doc FCCC/CP/2005/MISC.1

UN Commission on Crime Prevention and Criminal Justice, United Nations Principles and Guidelines on Access to Legal Aid in Criminal Justice Systems (2012) UN Doc E/CN.15/2012/L.14/Rev.1.

UN Commission on Human Rights, Resolution 2001/28 (adopted on 20 April 2001) E/CN.4/RES/2001/28

UN, World Population Prospects: The 2012 Revision, Volume I: Comprehensive Tables [2013] UN Doc ST/ESA/SER.A/336

UNCBD, COP Decision VI/22, Forest biological diversity (2002) UN Doc UNEP/CBD/COP/6/20

UNCBD, COP Decision IX/16, Biodiversity and climate change (2008) UN Doc UNEP/CBD/COP/DEC/IX/16

UNCBD, COP Decision IX/11, Review of implementation of Articles 20 and 21 (2008), UN Doc UNEP/CBD/COP/DEC/IX/11

UNCBD, COP Decision IX/6, Incentive measures (Article 11) (2008) UN Doc UNEP/CBD/COP/DEC/IX/6

UNCBD, COP Decision X/33 Biodiversity and climate change (2010) UN Doc UNEP/CBD/COP/DEC/X/33

UNCBD, State of financing for biodiversity: draft global monitoring report 2012 on the Strategy for Resource Mobilization under the Convention - Note by the Executive Secretary (2012) UN Doc UNEP/CBD/COP/11/INF/16

UNDESA, Monterrey Consensus on Financing for Development (UNDESA 2003)

UNDESA, Public Governance Indicators: A Literature Review (2007) UN Doc ST/ESA/PAD/SER.E/100

UNECE, Spatial Planning: Key Instrument for Development and Effective Governance with Special Reference to Countries in Transition (2008) UN Doc ECE/HBP/146

UNFCCC COP Decision 1/CP.13 (2007) UN Doc FCCC/CP/2007/6/Add.1

UNFCCC COP Decision 1/CP.16 (2010) UN Doc FCCC/CP/2010/7/Add.1

UNFCCC COP Decision 1/CP.17 (2011) UN Doc FCCC/CP/2011/9/Add.1

UNFCCC COP Decision 1/CP.18 (2012) UN Doc FCCC/CP/2012/8/Add.1

UNFCCC COP Decision 10/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1

UNFCCC COP Decision 10/CP.7 (2002) UN Doc FCCC/CP/2001/13/Add.1

UNFCCC COP Decision 11/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1

UNFCCC COP Decision 12/CP.17 (2011) UN Doc FCCC/CP/2011/9/Add.2

UNFCCC COP Decision 13/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1

UNFCCC COP Decision 15/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1

UNFCCC COP Decision 2/CP.13 (2007) UN Doc FCCC/CP/2007/6/Add.1

UNFCCC COP Decision 2/CP.15 (2009) UN Doc FCCC/CP/2009/11/Add.1

UNFCCC COP Decision 2/CP.17 (2011) UN Doc FCCC/CP/2011/9/Add.1

UNFCCC COP Decision 3/CMP.1 (2005) UN Doc FCCC/KP/CMP/2005/8/Add.1

UNFCCC COP Decision 3/CP.17 (2011) UN Doc FCCC/CP/2011/9/Add.1

UNFCCC COP Decision 4/CP.15 (2009) UN Doc FCCC/CP/2009/11/Add.1

UNFCCC COP Decision 5/CMP.1 (2005) UN Doc FCCC/KP/CMP/2005/8/Add.1

UNFCCC COP Decision 5/CMP.2 (2006) UN Doc FCCC/KP/CMP/2006/10/Add.1

UNFCCC COP Decision 6/CP.7 (2001) UN Doc FCCC/CP/2001/13/Add.1

UNFCCC COP Decision 9/CP.19 (2013) UN Doc FCCC/CP/2013/10/Add.1

UNFCCC COP Draft decision -/CMP.1, Land use, land-use change and forestry (2001)
UN Doc FCCC/CP/2001/13/Add.1

UNFCCC COP Draft Decision -/CP.15, Copenhagen Accord (2009) UN Doc

FCCC/CP/2009/L.7

UNFCCC Views on the range of topics and other relevant information relating to reducing emissions from deforestation in developing countries (2007) UN Doc FCCC/SBSTA/2007/MISC.2

UNFCCC, Ideas and proposals on the elements contained in paragraph 1 of the Bali Action Plan, Submissions from Parties (2008) UN Doc FCCC/AWGLCA/2008/MISC.2

UNFCCC, International blueprint on adaptation: Submission from Tuvalu) (2007) UN Docs FCCC/CP/2007/MISC.2 and FCCC/KP/CMP/2007/MISC.3

UNFCCC, Reducing emissions from deforestation in developing countries: approaches to stimulate action - Submissions from the Governments of Papua New Guinea and Costa Rica (2005) UN Doc FCCC/CP/2005/MISC.1

UNGA 64/196 (12 February 2010) UN Doc A/RES/64/196

UNGA Res 1515(XV) (15 December 1960) UN Doc A/4648

UNGA Res 1803(XVII) (14 December 1962) UN Doc A/5217

UNGA Res 3016(XXVII) (18 December 1972) UN Doc A/8963

UNGA Res 3281(XXIX) (12 December 1974) 29 UNGAOR Supp No 31

UNGA Res 37/7 (28 October 1982) UN Doc A/RES/37/7

UNGA Res 40/146 (13 December 1985) UN Doc A/RES/40/146

UNGA Res 40/32 (29 November 1985) UN Doc A/RES/40/32

UNGA Res 41/128 (4 December 1986) UN Doc A/RES/41/128

UNGA Res 43/53 (6 December 1988) UN Doc A/RES/43/53

UNGA Res 62/98 (17 December 2007) UN Doc A/RES/62/98

UNGA Res 626(VII) (21 December 1952) UN Doc A/2361

UNGA Res 63/278 (1 May 2009) UN Doc A/RES/63/278

UNGA Res 67/214 (15 March 2013) UN Doc A/RES/67/214

UNGA, Report of the Special Rapporteur on the independence of judges and lawyers,
Gabriela Knaul (2013) UN Doc A/HRC/23/43

UN-HABITAT Report of the United Nations Conference on Human Settlements (Habitat
II), Istanbul 3-14 June 1996 (1996) UN Doc A./CONF.165/14

UNIPF Report of the Ad-Hoc Intergovernmental Panel on Forests on Its Fourth Session
(1997) UN Doc E/CN.17/1997/12

UN-REDD Programme Guidelines on FPIC (New York, 2009) <[www.un-
redd.org/Launch_of_FPIC_Guidelines/tabid/105976/Default.aspx](http://www.un-redd.org/Launch_of_FPIC_Guidelines/tabid/105976/Default.aspx)> Accessed 10
February 2014

UN-REDD UN-REDD Programme Rules of Procedure and Operational Guidance (UN-
REDD 2009)

WMO 'Report of the International Conference on the Assessment of the Role of Carbon
Dioxide and of Other Greenhouse Gases in Climate Variations and Associated
Impacts' (Villach, 9-15 October 1985) WMO No.661

WMO Declaration of the World Climate Conference (1979) UN Doc ICO/SAB-IV/INF.3

World Bank, Charter Establishing The Forest Carbon Partnership Facility (World Bank
2010)

World Bank, Forest Carbon Partnership Facility (FCPF) Readiness Fund, Readiness
Package Assessment Framework (World Bank 2013) Doc FMT Note 2013-1 rev

Official regional documents

CEMAT, Future Challenges: Sustainable Territorial Development of the European
Continent in a Changing World (2010) 15 CEMAT (2010) Final 8E

Commission, 'Addressing the challenges of deforestation and forest degradation to tackle
climate change and biodiversity loss' COM (2008) 645/3

Commission, 'Communication from the Commission to the European Parliament

pursuant to the second subparagraph of Article 251 (2) of the EC Treaty concerning the common position of the Council on the adoption of a Directive of the European Parliament and of the Council amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community' COM(2008) 221 final

Commission, 'Proposal for a Council Decision authorising enhanced cooperation in the area of financial transaction tax' COM(2012) 631 final/2

Commission, Cutting forest CO2 emissions through action on deforestation in developing countries (REDD+): Building a post-2012 global climate regime (EC 2009)
<http://ec.europa.eu/clima/events/0013/info_sheet_redd_final_en.pdf> Accessed 11 June 2013

Official domestic documents

Burkina Faso, Forest Investment Programme (FIP – Burkina Faso) (Ministry of Environment and Sustainable Development 2012) Doc FIP/SC.9/4

Central Kalimantan's REDD+ Regional Commission, REDD+ Regional Strategy (Strada) Central Kalimantan Province (2013)
<[www.gcftaskforce.org/documents/Central%20Kalimantan%20REDD+%20Strategy%20\(unofficial%20English%20translation\).pdf](http://www.gcftaskforce.org/documents/Central%20Kalimantan%20REDD+%20Strategy%20(unofficial%20English%20translation).pdf)> Accessed 11 February 2014

Comité Técnico de Protección y Conservación Forestal, Programa de Compensación Ambiental por Cambio de Uso de Suelo (Semarnat 2012)
<<http://proteccionforestal.wordpress.com/2012/05/04/programa-de-compensacion-ambiental-por-cambio-de-uso-de-suelo>> (last accessed 31 January 2014)

DRC, Fonds National REDD+: Termes de Référence (Kinshasa, DRC, 2009) 11
<<http://www.forestpeoples.org/sites/fpp/files/publication/2013/05/121105tor-etude-fonds-national-redd.pdf>> Accessed 12 February 2014

FIP, Investment Plan of Mexico (World Bank 2011) Doc FIP/SC.7/5/Rev.1

Government of Argentina, Régimen de Protección al Dominio Nacional sobre la Propiedad, Posesión o Tenencia de las Tierras Rurales (2011) Law 26.737

- Government of Costa Rica, Forestry Law 7575 (1996)
- Government of Indonesia, Investment Plan for Indonesia (2012) FIP/SC.9/6
- Government of the Democratic Republic of Congo, Readiness Plan for REDD 2010-2012 (Ministry of Environment 2010)
- Indonesian REDD+ Task Force, REDD+ National Strategy (Government of Indonesia 2012) <www.satgasreddplus.org> Accessed 10 February 2014
- Indonesian REDD+ Task Force, REDD+ National Strategy (Jakarta, Indonesia, 2012) <www.satgasreddplus.org> Accessed 10 February 2014
- Inter-American Development Bank, Low-Carbon Agriculture And Avoided Deforestation To Reduce Poverty In Brazil (IDB 2010) Doc Br-X1028
- UK Office of the Deputy Prime Minister, Planning Policy Statement 1: Delivering Sustainable Development (UK Government 2005)

Books

- Ahmed K, E Sanchez-Triana (eds), *Strategic Environmental Assessment for Policies: An Instrument for Good Governance* (World Bank 2008)
- Allen R, S Schiavo-Campo, TC Garrity, *Assessing and Reforming Public Financial Management* (World Bank 2004)
- Anderson TL, DR Leal, *Free market environmentalism* (Revised ed., Palgrave 2001)
- Angelsen A (ed), *Moving Ahead with REDD+: Issues, Options and Implications* (CIFOR 2008)
- Angelsen A, M Brockhaus, M Kanninen, E Sills, WD Sunderlin, S Wertz-Kanounnikoff (eds.), *Realising REDD-plus: National strategy and policy options* (CIFOR 2009)
- Angelsen A, M Brockhaus, WD Sunderlin, LV Verchot et al, *Analysing REDD+: Challenges and choices* (CIFOR 2012)
- Beek KJ, PA Burrough, DE McCormack (eds.) *Quantified Land Evaluation* (ITC

- Publication 1987)
- Bertzky B, C Corrigan, J Kemsey, S Kenney, C Ravilious, C Besançon, N Burgess, *Protected Planet Report 2012: Tracking progress towards global targets for protected areas* (IUCN/UNEP 2012)
- Bhargava VK, *Global issues for global citizens: an introduction to key development challenges* (World Bank 2006)
- Birnie P, A Boyle, C Redgwell, *International Law and the Environment* (3rd edn, OUP 2009)
- Black J, Transparent Policy Measures, *Oxford Dictionary of Economics* (OUP 1997)
- Bodanski D, J Brunnée, E Hey, *Oxford Handbook of International Environmental Law* (OUP 2007)
- Bowman M, A Boyle, *Environmental Damage in International and Comparative Law: Problems of Definition and Valuation* (OUP 2002)
- Boyle A, D Freestone (eds.), *International law and Sustainable Development: Past Achievements and Future Challenges* (OUP 1999)
- Brechin SR, PR Wilshusen, CL Fortwangler, PC West, *Contested Nature: Promoting International Biodiversity and Social Justice in the 21st Century* (State University of New York Press 2003)
- Brown K, DW Pearce (eds.) *The Causes of Tropical Deforestation* (UCL Press 1994)
- Brown LR, *Plan B 4.0: Mobilizing to save civilization* (Northon & Company 2009)
- Campbell B, W Mann, R Melendez-Ortiz, C Streck, T Tennigkeit, *Climate Change and Agriculture: A Scoping Report* (Meridian Institute 2011)
- CBD, *Proposals for the Design and Implementation of Incentive Measures* (CBD Secretariat 2004)
- Chape S, *United Nations list of protected area* (IUCN/UNEP, 2003)
- Chomitz KM, *At loggerheads?: Agricultural Expansion, Poverty Reduction, and Environment in the Tropical Forests* (World Bank 2007)

- Christy CL, CE Di Leva, JM Lindsay, PT Takoukam, *Forest Law and Sustainable Development Addressing Contemporary Challenges Through Legal Reform* (World Bank 2007)
- CJ Pierce Colfer CJ, D Capistrano (eds.), *The Politics of Decentralization: Forests, People and Power* (Earthscan 2005)
- Commission, *ESDP: European Spatial Development Perspective: Towards Balanced and Sustainable Development of the Territory of the European Union* (Office for Official Publications of the European Communities 1999)
- Commission, *The EU compendium of planning systems and policies, Regional Development Studies Report 28* (Office for Official Publications of the European Communities 1997)
- Costenbader J (ed.), *Legal frameworks for REDD: Design and Implementation at the national level* (IUCN 2009)
- Cruickshank EW, K Schneeberger, N Smith, *A Pocket Guide to Sustainable Development Governance* (2nd ed., Commonwealth Secretariat 2012)
- Dalal-Clayton B, D Dent, O Dubois, *Rural Planning in the Developing World with a Special Focus on Natural Resources: Lessons Learned and Potential Contributions to Sustainable Livelihoods - An Overview* (IIED 2000)
- Daly H, *Steady-State Economics* (2nd ed., Island Press 1991)
- Davoudi S, J Crawford, A Mehmood (eds.), *Planning for Climate Change: strategies for mitigation and adaptation for spatial planners* (Earthscan 2009)
- Deininger KW, B Derek, L Jonathan N Andrew, S Harris, S Mercedes, *Rising global interest in farmland: Can it yield sustainable and equitable benefits?* (World Bank 2010)
- Deininger KW, D Byerlee, J Lindsay, A Norton, H Selod, M Stickler, *Rising global interest in farmland: Can it yield sustainable and equitable benefits?* (World Bank 2010)
- Deininger KW, H Selod, A Burns, *The land governance assessment framework: identifying and monitoring good practice in the land sector* (World Bank 2012)

- Driessen PM, NT Konijn, *Land Use Systems Analysis* (Wageningen Agricultural University 1991)
- Duany A, J Speck, M Lydon, *The Smart Growth Manual* (McGraw Hill 2010)
- Ehlers E, T Craft, *Earth System Science in the Anthropocene* (Springer 2006)
- Eliasch J, *Climate change: Financing global forests* (Crown 2008)
- EPA, *Advancing the Science of Climate Change* (National Academies Press 2010)
- FAO, *Guidelines for land use planning* (FAO 1993)
- FAO, *Land tenure and rural development* (FAO 2002)
- FAO, *Planning for sustainable use of land resources: Towards a new approach* (FAO 1995)
- FAO, *Southeast Asian forests and forestry to 2020: Subregional report of the second Asia-Pacific forestry sector outlook study* (FAO 2011)
- FAO, *The Future of our land: facing the challenge, Guidelines for integrated planning for sustainable management of land resources* (FAO 1999)
- FAO, *The State of Food Insecurity 2011: How does international price volatility affect domestic economies and food security* (FAO 2011)
- Geerlings H, Y Shiftan, D Stead, *Transition Towards Sustainable Mobility: The Role of Instruments, Individuals and Institutions* (Ashgate 2012)
- Ghai Y, J Cottrell (eds), *Marginalised Communities and Access to Justice* (Routledge 2009)
- Gibson CC, MA MacKean, E Ostrom, *People and Forests: Communities, Institutions and Governance* (MIT Press 2000)
- Gupta J, N van der Grijp, O Kuik, *Climate Change, Forests and REDD: Lessons for Institutional Design* (Routledge 2013)
- Hornborg A, JR McNeill, JM Alier, *Rethinking environmental history: world-system history and global environmental change* (Rowman Altamira 2007)

- International Resource Panel (ed), *Assessing Global Land Use: Balancing Consumption with Sustainable Supply: A Report of the Working Group on Land and Soils of the International Resource Panel* (UNEP 2014)
- IPCC, *Climate change 2007: Contributions of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (CUP 2007)
- IPCC, *Climate change 2007: Contributions of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (CUP 2007)
- IPCC, *Climate change 2007: Contributions of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (CUP 2007)
- IPCC, *Land Use, Land-Use Change and Forestry* (CUP 2000)
- IUCN-UNEP-WWF, *World Conservation Strategy: Living Resource Conservation for Sustainable Development* (IUCN 1980)
- Jackson T, *Prosperity Without Growth: Economics for a Finite Planet* (Earthscan 2009)
- Jones CE, M Baker, J Carter, S Jay, M Short, C Wood (eds.), *Strategic Environmental Assessment of Land Use Plans: An International Evaluation* (Earthscan 2005)
- Jones DS, *Masters of the Universe: Hayek, Friedman, and the Birth of Neoliberal Politics* (Princeton University Press 2012)
- Jones MD, *The Thinker's Toolkit: Fourteen Powerful techniques for Problem Solving* (Crown Business 1998)
- Knight RS, *Statutory recognition of customary land rights in Africa: An investigation into best practices for lawmaking and implementation* (FAO 2010)
- Larson AM, *Forests for People: Community Rights and Forest Tenure Reform* (Earthscan 2010)
- Larsson G, *Land registration and cadastral systems: Tools for land information and management* (Longman 1991)
- LeGates RT, F Stout (eds.), *The City Reader* (Routledge 1996)
- Linacre N, A Kossoy, P Ambrosi, *State and Trends of the Carbon Market 2011* (World

- Bank 2011)
- Marx K, *A Contribution to the Critique of Political Economy* (original published in 1875, Intl Publ 1979)
- Meadows DH, DL Meadows, J Randers, WW Behrens III, *The Limits to Growth: A report for the Club of Rome's Project on the Predicament of Mankind* (Potomac 1972)
- Metz B, OR Davidson, PR Bosch, R Dave, LA Meyer (eds), *Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (CUP 2007)
- Millennium Ecosystem Assessment, *Ecosystems and Human Well-being: Synthesis* (Island Press 2005)
- Mintzberg H, *The rise and fall of strategic planning* (Free Press 1994)
- Mosley P, P Harrigan, J Toye, *Aid and Power: The World Bank and Policy Based Lending* (vol. 1, Routledge 1995)
- Nuffield Council on Bioethics, *Biofuels: ethical issues* (Nuffield Press 2011)
- Parker C, A Mitchell, M Trivedi, N Mardas, *The Little REDD+ Book: A guide to governmental and non-governmental proposals for reducing emissions from deforestation and degradation* (Global Canopy Programme 2008)
- Parker C, J Brown, J Pickering, E Roynestad, N Mardas, A Mitchell, *The little climate finance book: a guide to financing options for forests and climate change* (Global Canopy Programme 2009)
- Parrotta J, C Wildburger, S Mansourian, *Understanding Relationships between Biodiversity, Carbon, Forests and People: The Key to Achieving REDD+ Objectives* (IUFRO 2012)
- Penman J, M Gytarsky, T Hiraishi, T Krug, D Kruger, R Pipatti, L Buendia, K Miwa, T Ngara, K Tanabe, F Wagner, *IPCC Report on Definitions and Methodological Options to Inventory Emissions from Direct Human-induced Degradation of Forests and Devegetation of Other Vegetation Types* (CUP 2003)
- Prip C, T Gross, T Johnston, M Vierros, *Biodiversity Planning: an assessment of national biodiversity strategies and action plans* (UN University Institute of Advanced Studies

2010)

Ramsar Convention Secretariat, *Wise use of wetlands: Concepts and approaches for the wise use of wetlands, Ramsar handbooks for the wise use of wetlands* (4th ed, Ramsar Secretariat 2010)

Rayner J, A Buck, P Katila, *Embracing Complexity: Meeting the Challenges of International Forest Governance* (IUFRO 2011)

Rodrick D, MR Rosenzweig, *Handbook of Development Economics* (vol 5, Elsevier 2009)

Rosenau JN, EO Czempiel, *Governance without government* (CUP 1992)

Rosenzweig ML, *Win-Win Ecology: How the Earth's Species Can Survive in the Midst of Human Enterprise* (OUP 2003)

Royal Society of London, *Reaping the Benefits: Science and the Sustainable intensification of Global Agriculture* (Royal Society 2009)

Rudiarto I, *Corruption on Land Use Planning and Land Registration-Cadastrre Process: An Analysis of Causes and Consequences* (LAP 2010)

Sands P (ed.) *Greening international law* (Earthscan 1993)

Sands P, *Principles of international environmental law* (2nd ed., CUP 2009)

Schaklock A, C Connors, *Measuring Corruption* (Ashgate 2007)

Scherr S, A White, D Kaimowitz, *A new agenda for forest conservation and poverty reduction: making markets work for low-income producers* (Forest Trends 2003)

Schumacher EF, *Small is Beautiful: a Study of Economics as if People Mattered* (1972, Vintage 1993)

Spantigati P, J Springfors, *Microfinance and Small-Scale Forest-Based Enterprises* (FAO 2005)

Steinfeld H, HA Mooney, F Schneider, LE Neville, *Livestock in a changing landscape, Vol. 1: Drivers, consequences and responses* (Island Press 2010)

Steinfeld H, P Gerber, T Wassenaar, V Castel, M Rosales, C De Haan, *Livestock's Long*

- Shadow: Environmental Issues and Options* (FAO 2006)
- Stern N, *Stern Review: The Economics of Climate Change* (CUP 2007)
- Sukhdev P (ed.), *TEEB: The Economics of Ecosystems and Biodiversity for Local and Regional Policy Makers* (TEEB 2010)
- Susskind L, M van der Wansem, A Ciccareli, *Mediating Land Use Disputes: Pros and Cons* (Lincoln Institute of Land Policy 2000)
- Tacconi L, *Illegal logging: law enforcement, livelihoods and the timber trade* (Earthscan 2007)
- Tladi D, *Sustainable Development in International Law: An Analysis of Key Environmental Instruments* (PULP 2007)
- Tongway DJ, JA Ludwig, *Restoring Disturbed Landscapes: Putting principles into practice* (Island Press 2011)
- UNCTAD, *World Investment Report 2012: Towards a New generation of Investment Policies* (UNCTAD 2012)
- UNEP, *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* (UNEP 2011)
- UNFPA, *State of the World Population 2007: Unleashing the Potential of Urban Growth* (UNFPA 2007)
- Verheye WH (ed.), *Land use, land cover and soil science* (vol. III, EOLSS Publishers 2003)
- Von Grebmer K, M Torero, T Olofinbiyi, H Fritschel, D Wiesmann, Y Yohannes, L Schofield, C von Oppeln, *Global Hunger Index 2011: The Challenge of hunger: taming price spikes and excessive price volatility* (DFS Druck 2011)
- Williams M, *Deforesting the Earth: From Prehistory to Global Crisis, An Abridgment* (University of Chicago Press 2006)
- World Bank, *Forests Sourcebook: Practical Guidance for Sustaining Forests in Development Cooperation* (World Bank 2008)

World Bank, *Strengthening Forest Law Enforcement and Governance Addressing a Systemic Constraint to Sustainable Development* (World Bank 2006)

World Bank, *World Development Report 2008: Agriculture for Development* (World Bank 2008)

World Commission on Environment and Development, *Our Common Future* (OUP 1987)

Young MA (ed.), *Regime Interaction in international Law: Facing Fragmentation* (CUP 2012)

Journal Articles

Adams R, 'Missing the 2010 Biodiversity Target: A Wake-up Call for the Convention on Biodiversity?' (2010) 21(1) *Colo. J. Int'l Envtl. L. & Pol'y* 123

Ades A, R Di Tella, 'The new economics of corruption: a survey and some new results' (1997) 45(Special Issue) *Polit Stud* 496

Agrawal A, 'Community, Intimate Government, and the Making of Environmental Subjects in Kumaon, India' (2005) 46(2) *Current Anthropology*

Agrawal A, CG Gibson, 'Enchantment and Disenchantment: The Role of Community in Natural Resource Conservation' (1999) 27(4) *World Development* 629

Agrawal A, E Ostrom, 'Collective Action, Property Rights, and Decentralization in Resource Use in India and Nepal' (2001) 29(4) *Politics & Society*

Ahrends A, ND Burgess, SAH Milledge, MT Bulling, B Fisher, JCR Smart, GP Clarke, BE Mhoro, SL Lewis, 'Predictable waves of sequential forest degradation and biodiversity loss spreading from an African city', (2010) 107 *PNAS* 1

Aidt TS, 'Corruption, institutions, and economic development' (2009) 25(2) *Oxf Rev Econ Policy* 271

Aquino A, B Guay, 'Implementing REDD+ in the Democratic Republic of Congo: An analysis of the emerging national REDD+ governance structure' (2013) (36) *FORPOL*

- Arima EY, P Richards, R Walker, MM Caldas, 'Statistical confirmation of indirect land use change in the Brazilian Amazon' (2011) 6 *Env. Res. Letters*
- Asner GP, GV Powell, J Mascaro, DE Knapp, JK Clark, J Jacobson, 'High-resolution forest carbon stocks and emissions in the Amazon' (2010) 107 *PNAS* 1
- Auckland L, P Moura Costa, S Brown, 'A conceptual framework and its application for addressing leakage: the case of avoided deforestation' (2003) 3 *Climate Policy* 124
- Baccini A, SJ Goetz, WS Walker, NT Laport, M Sun, D Sulla-Menashe, J Hackler, PSA Beck, R Dubayah, MA Friedl, S Samanta, RA Houghton, 'Estimated carbon dioxide emissions from tropical deforestation improved by carbon-density maps' (2012) 2 *Nature Climate Change* 182
- Bardhan P, 'The economist's approach to the problem of corruption' (2006) 34(2) *World Development Journal* 341
- Barelli M, 'Free, prior and informed consent in the aftermath of the UN Declaration on the Rights of Indigenous Peoples: developments and challenges ahead', (2012) 16(1) *The International Journal of Human Rights* 2.
- Barrett CB, DR Lee, JG McPeak, 'Institutional arrangements for rural poverty reduction and resource conservation' (2005) 33 *World Development* 193-97
- Beer C, 'Terrestrial Gross Carbon Dioxide Uptake: Global Distribution and Covariation with Climate' (2010) 329(5993) *Science* 834
- Benhin JA, 'Agriculture and Deforestation in the Tropics: A Critical Theoretical and Empirical Review' (2006) 35 *Ambio* 9
- Birkinshaw P, 'Freedom of Information and Openness: Fundamental Human Rights' (2006) 58(1) *Administrative Law Review* 189
- Bishop K, M Tewdwr-Jones, D Wilinkson, 'From Spatial to Local: The impact of the European Union Local Authority Planning in the UK' (2000) 43(3) *Journal of Environmental Planning and Management*
- Blom B, T Sunderland, D Murdiyarsa, 'Getting REDD to work locally: lessons learned from integrated conservation and development projects' (2010) 13 *Env. Science &*

- Bowman M, 'The Ramsar Convention on Wetlands: Has it Made a Difference?' (2002-03) *Yearbook of International Co-operation on Environment and Development* 61
- Bray D, P Klepeis, 'Deforestation, forest transitions, and institutions for sustainability in Southeastern Mexico, 1900-2000' (2005) 11 *Environment and History* 195
- Bray D, P Negreros, L Merino-Perez, JM Torres Rojo, G Segura, HFM Vester, 'Mexico's Community managed Forests as a Global Model for Sustainable Forestry' (2003) 17(3) *Conservation Biology* 672
- Briassoulis H, 'Who plans whose sustainability?: Alternative roles for planners' (1999) 42(6) *Journal of Environmental Planning and Management* 893
- Briffault R, 'Our localism: part I - The structure of local government law' (1990) 90(1) *Columbia Law Review* 105
- Brockhaus M, M Di Gregorio, S Mardiah, 'Governing the design of national REDD+: An analysis of the power of agency' (2013) (in press) *FORPOL* <DOI: <http://dx.doi.org/10.1016/j.forpol.2013.07.003>>
- Brockington D, J Igoe, 'Eviction for Conservation. A Global Overview' (2006) 4(3) *Conservation and Society* 443
- Brockington D, J Igoe, K Schmidt-Soltau, 'Conservation, human rights and poverty reduction' (2006) 20(1) *Conservation Biology* 250
- Broegaard RJ, 'Land Tenure Insecurity and Inequality in Nicaragua' (2005) 36(5) *Development and Change* 845
- Bruce M, M Russett, 'Inequality and Instability: The Relation of Land Tenure to Politics', (1964) 16 *World Politics* 442
- Brunnée J, A NollKaemper, 'Between the forests and the trees – an emerging international forest law' (1996) 23(4) *Env Conserv* 308
- Brunnée J, C Streck, 'The UNFCCC as a negotiation forum: towards common but more differentiated responsibilities' (2013) 13(5) *Climate Policy* 589
- Burby RJ, PJ May, 'Intergovernmental environmental planning: Addressing the

- commitment conundrum' (1998) 41(1) *Journal of Environmental Planning and Management*
- Busch PO, H Jorgens, K Tews, 'The Global Diffusion of Regulatory Instruments: The Making of a New International Environmental Regime' (2005) 598 *Annals* 145
- Camacho AE, 'Mustering the Missing Voices: A Collaborative Model for Fostering Equality, Community Involvement and Adaptive Planning in Land Use Decisions' (2005) 24(3) *Stan. Envtl. L. J.* 3
- Castree N, 'Neoliberalising nature: the logics of deregulation and reregulation' (2008) 40 *Env and Plan A* 131
- Chandra Saxena N, *The Saga of Participatory Forest Management in India* (CIFOR 1997) 1
- Chaytor B, 'The Development of Global Forest Policy: Overview of Legal and Institutional Frameworks' (2001) 3 *MMSD*
- Chertow MR, 'The IPAT Equation and Its Variants: Changing Views of Technology and Environmental Impact', (2001) 4(4) *J. Ind. Eco.* 19
- Clover J, S Eriksen, 'The effects of land tenure change on sustainability: human security and environmental change in southern African savannas' (2009) 12 *Environmental Science & Policy* 53
- Commoner B, 'A bulletin dialogue on "The Closing Circle": Response' (1972) 28(5) *Bulletin of the Atomic Scientists* 17.
- Couclelis H, 'Where has the future gone? Rethinking the role of integrated land-use models in spatial planning' (2005) 37 *Environment and Planning A* 1356
- Cousins B, 'How Do Rights Become Real?: Formal and Informal Institutions in South Africa's Land Reform' (1997) 28(4) *IDS Bulletin* 59
- Daley E, R Dore-Weeksb, C Umuhozac, 'Ahead of the game: land tenure reform in Rwanda and the process of securing women's land rights' (2010) 4(1) *J. of East. African Studies* 131
- Daniels RJ, M Trebilcock, 'The political economy of rule of law reform in developing

- countries' (2004) 26 (99) Mich. J. Int'l L. 105
- DeFries R, A Hansen, BL Turner, R Reid, J Liu, 'Land use change around protected areas: management to balance human needs and ecological functions' (2007) 17(4) Ecological Applications 1031
- DeFries R, T Rudel, M Uriarte, M Hansen, 'Deforestation driven by urban population growth and agricultural trade in the twenty-first century' (2010) 3 Nature Geoscience 178
- Doherty E, H Schroeder, 'Forest Tenure and Multi-level Governance in Avoiding Deforestation under REDD+' (2011) 11(4) Global Environmental Politics 75
- Ehrlich P, J Holdren, 'Impact of population growth' (1971) 171 Science 1212
- Evans P, J Rauch, 'Bureaucracy and Growth: A Cross-National Analysis of the Effects of "Weberian" State Structures on Economic Growth' (1999) 64(5) American Sociological Review 748
- Ewers RM, JPW Scharlemann, A Balmford, RE Green, 'Do increases in agricultural yield spare land for nature?' (2009) 15(7) Global Change Biology 1716
- Fargione J, J Jason Hill, D Tilman, S Polasky, P Hawthorne, 'Land Clearing and the Biofuel Carbon Debt' (2008) 319(5867) Science 1235
- Fearnside PM, 'Dams in the Amazon: Belo Monte and Brazil's Hydroelectric Development of the Xingu River Basin' (2006) 38(1) Env. Manag. 16
- Fearnside PM, 'Greenhouse gas emissions from hydroelectric dams: Controversies provide a springboard for rethinking a supposedly "clean" energy source', (2004) 66(1-2) Climatic Change 1-8
- Fearnside PM, 'Hydroelectric Dams in the Brazilian Amazon as Sources of 'Greenhouse' Gases' (1995) 22(1) Env. Cons.
- Fearnside PM, 'The roles and movements of actors in the deforestation of Brazilian Amazonia' (2008) 13(1) Ecology and Society 23
- Finley-Brook M, 'Indigenous Land Tenure Insecurity Fosters Illegal Logging in Nicaragua' (2007) 9(4) Int'l For Rev. 850

- Fisher B, DP Edwards, X Giam, DS Wilcove, 'The high costs of conserving Southeast Asia's lowland rainforests' (2011) 9 *Frontiers in Ecology and the Environment* 329
- Fitzpatrick D, '“Best Practice” Options for the Legal Recognition of Customary Tenure' (2005) 36(3) *Development and Change* 449
- Fosci M, 'Balance sheet in the REDD+: Are global estimates measuring the wrong costs?', (2013) 89 *Ecological Economics* 196
- Fosci M, 'The economic case for prioritizing governance over financial incentives in REDD+' (2013) 13(2) *Climate Policy* 170
- Francioni F, 'Access to Justice, Denial of Justice and International Investment Law' (2009) 29(3) *EJIL* 729
- Franco J, L Levidow, D Fig, L Goldfarb, M Honicke, ML Mendonca, 'Assumptions in the European Union biofuels policy: frictions with experiences in Germany, Brazil and Mozambique' (2010) 39(4) *The Journal of Peasant Studies* 661
- Fred-Mensa B, 'Capturing Ambiguities: Communal Conflict Management Alternative in Ghana' (1999) 27(6) *World Development* 957
- French D, 'Developing States and International Environmental Law: the Importance of Differentiated Responsibilities' (2000) 49 *ICLQ* 35-60
- Fuller DO, 'Tropical forest monitoring and remote sensing: A new era of transparency in forest governance?' (2006) 27(1) *Singapore J. of Tropical Geography* 15
- Garnett ST, J Sayer, J du Toit 'Improving the Effectiveness of Interventions to Balance Conservation and Development: a Conceptual Framework' (2007) 12(1) *Ecology & Society*
- Gawela E, G Ludwig 'The iLUC dilemma: How to deal with indirect land use changes when governing energy crops?' (2011) 28 *Land Use Policy* 846
- Geisler C, 'Must Biodiversity Hot-Spots Be Social Not-Spots?: Win-Win Ecology as Sustainable Social Policy' (2010) 4(1) *Consilience: The Journal of Sustainable Development* 120
- Geist HK, EF Lambin, 'Proximate causes and underlying driving forciers of tropical

- deforestation' 2002 52 (2) *Bioscience* 143
- Gerwing J, 'Degradation of forests through logging and fire in the eastern Brazilian Amazon' (2002) 157 *Forest Ecology & Management* 131
- Gibbs HK, AS Ruesch, F Achard, MK Clayton, P Holmgren, N Ramankutty, JA Foley, 'Tropical forests were the primary sources of new agricultural land in the 1980s and 1990s' (2010) 107 (38) *PNAS* 16732
- Goodland R, 'Free, Prior and Informed Consent and the World Bank Group' (2004) 4(2) *Sustainable Development Law & Policy* 66
- Grainger A, 'Difficulties in tracking the long-term global trend in tropical forest area' (2008) 105(2) *PNAS* 818
- Green RE, SJ Cornell, JPW Scharlemann, A. Balmford, 'Farming and the fate of wild nature' (2005) 307(5709) *Science* 550
- Grieg-Gran M, I Porras, S Wunder, 'How can market mechanisms for forest environmental services help the poor? Preliminary lessons from Latin America' (2005) 33 (9) *World Development* 1513
- Hall P, 'Policy paradigms, social learning and the state: the case of economic policy-making in Britain' (1993) 25(3) *Comparative Politics* 278
- Halleuxa J, S Marcinczakb, E van der Krabben, 'The adaptive efficiency of land use planning measured by the control of urban sprawl: the cases of the Netherlands, Belgium and Poland' (2012) 29(4) *Land Use Policy* 887
- Haque ME, R Knelle, 'Corruption clubs: endogenous thresholds in corruption and development' (2009) 10 *Econ Gov* 345
- Hardin G, 'The Tragedy of the Commons' (1968) 162(3859) *Science* 1243
- Havlik P, 'GHG mitigation through bioenergy production versus carbon sinks enhancement: A quantitative analysis' (2009) 6 *IOP Conf. Ser.: Earth Environ. Sci.*
- Hellman JS, G Jones, D Kaufmann, 'Seize the state, seize the day: state capture and influence in transition economies' (2003) 31(4) *Journal of Comparative Economics* 751

- Hepburn S, 'Carbon Rights as New Property: The benefits of statutory verification (2009) 31 Sydney Law Review
- Hiemstra-van der Horst G, AJ Hovorka, 'Fuelwood: The "other" renewable energy source for Africa?' (2009) 33 Biomass and Bioenergy 1605
- Hooghe L, G Marks, 'Unraveling the Central State - but How?: Types of Multi-level Governance' (2003) 97(2) American Political Science Review 234
- Hosonuma N, M Herold, V De Sy, R De Fries, M Brockhaus, L Verchot, A Angelsen, E Romjin 'An assessment of deforestation and forest degradation drivers in developing countries' (2012) 7 Environ. Res. Lett. 1
- Hovden E, 'As if nature doesn't matter: ecology, regime theory and International relations' (1999) 8(2) Environmental Politics 50
- Huber JD, N McCarty, 'Bureaucratic capacity, delegation, and political reform' (2004) 98 (3) APSR 481
- Humphreys D, 'Discourse as ideology: Neoliberalism and the limits of international forest policy' (2009) 11 FORPOL 323
- Humphreys D, 'Forest negotiations at the United Nations: explaining cooperation and discord' (2001) 3 FORPOL 125
- International Law Association, 'ILA New Delhi Declaration of Principles of International Law Relating to Sustainable Development, 2 April 2002' (2002) 2 International Environmental Agreements: Politics, Law and Economics 216
- Jachtenfuchs M, 'Theoretical perspectives on European governance' (1995) 1 European Law Journal 115
- Jaenicke J, JO Rieleyb, C Mottc, P Kimmand, F Siegerta, 'Determination of the amount of carbon stored in Indonesian peatlands' (2008) 31(3-4) Geoderma 151
- Jauhainen J, H Takahashi, JEP Heikkinen, PJ Martikainen, H Vasander, 'Carbon fluxes from a tropical peat swamp forest floor' (2005) 11(10) Global Change Biology 1788
- Jones LR, DF Kettl, 'Assessing Public Management Reform in an international Context' (2003) 4(1) International Public Management Review

- Kaimowitz D, 'Forest law enforcement and rural livelihoods' (2003) 5(3) *Int. For. Rev.* 199
- Karsenty A, S Assembé, 'Land tenure and implementation of REDD+ in central Africa' (2011) 2 *Land Tenure Journal* 116
- Karsenty A, S Ongolo, 'Can "fragile states" decide to reduce their deforestation? The inappropriate use of the theory of incentives with respect to the REDD mechanism' (2012) 18 *FORPOL* 42
- Karsenty A, S Ongolo, 'What room for payments for environmental services?' (2012) 18 *FORPOL* 38
- Kaufmann D, P Vicente, 'Legal corruption' (2011) 23(2) *Economics & Politics* 195
- Kemp R, S Parto, R Gibson, 'Governance for sustainable development: moving from theory to practice' (2005) 8(1-2) *Int. J. Sustainable Development* 17
- Kennett SA, AJ Kwasnaik, AR Lucas, 'Property rights and the legal framework for carbon sequestration on agricultural land' (2005) 37 *Ottawa Law Review* 171
- Kilgore MA, CM Hibbard, PV Ellefson, 'Comprehensive strategic planning for the use and management of forest resources: The experiences of state governments in the United States' (2006) 9 *FORPOL* 42
- Kim S, BE Dale, 'Indirect land use change for biofuels: Testing predictions and improving analytical methodologies' (2011) 35 *Biomass and Bioenergy* 3235
- Knox A, C Caron, J Miner, A Goldstein, 'Land tenure and payment for environmental services: challenges and opportunities for REDD+' (2011) 2 *Land Tenure Journal* 17
- Koh LP, DS Wilcove, 'Is oil palm agriculture really destroying tropical biodiversity?' (2008) 1 *Cons. Letters* 60
- Kohlmeyer C, 'The Convention to Combat Desertification: Relevant or a relict?' (2007) 1 *Agriculture & Rural Development* 26
- Kolstad I, A Wiig, 'Digging in the dirt? Extractive industry FDI and corruption' (2013) 14(4) *Economics of Governance* 369
- Kurtz MJ, A Shrank, 'Growth and Governance: Models, Measures and Mechanisms',

- (2007) 69 (2) J. of Politics 542
- Kurz WA, CC Dymond, G Stinson, GJ Rampley, ET Neilson, AL Carroll, T Ebata, L Safranyi, 'Mountain pine beetle and forest carbon feedback to climate change' (2008) 452 Nature
- Lambsdorff JG, 'How corruption affects productivity' (2003) 56(4) Kyklos 457
- Larson AM, 'Forest tenure reform in the age of climate change: Lessons for REDD+' (2011) 21 GEC 544
- Larson AM, D Berry, G Ram Dahal, 'New rights for forest-based communities?: Understanding processes of forest tenure reform' (2010)12(1) International Forestry Review 84
- Laurance WF, A Balmford, 'A global map for road building' (2013) 308(495) Nature 308
- Laurance WF, M Goosem, SGW Laurance, 'Impacts of roads and linear clearings on tropical forests' (2009) 24 Trends Ecol Evol 659
- Leff NH, 'Economic development through bureaucratic corruption' (1964) 8(3) American Behavioral Scientist 8
- Levis C, PF de Souza, J Schietti, T Emilio, JLP Da Veiga Pinto, CR Clement, FRC Costa, 'Historical Human Footprint on Modern Tree Species Composition in the Purus-Madeira Interfluvium, Central Amazonia' (2012) 7(11) PLoS ONE
- Lohmann L, 'Financialization, commodification and carbon: the contradictions of neoliberal climate policy' (2012) 48 Socialist Register 85
- Lund C, 'Struggles for Land and Political Power: On the Politicization of Land Tenure and Disputes in Niger' (1998) 1(40) J. Legal Pluralism & Unofficial Law
- Luttrell C, I Resosudarmo, E Muharrom, M Brockhaus, F Seymour, 'The political context of REDD+ in Indonesia: Constituencies for change' (2014) 35 Environmental Science and Policy 67
- Lyster R, 'REDD+, transparency, participation and resource rights: the role of law' (2011) Env. Science & Pol. 119
- MacKenzie CP, 'Lessons from Forestry or International Environmental Law (2012) 21(2)

- Maertens M, M Zellerb, R Birnerc, 'Sustainable agricultural intensification in forest frontier areas' (2006) 34 *Agricultural Economics* 197
- Malhi Y, JT Roberts, RA Betts, TJ Killeen, W Li, C.A. Nobre, 'Climate Change, Deforestation, and the Fate of the Amazon' (2008) 319(5860) *Science* 169
- Mascia MB, S Pailler, 'Protected area downgrading, downsizing, and degazettement (PADDD) and its conservation implications' (2010) 00 *Conservation Letters* 1
- Mathur A, K Singh, 'Foreign direct investment, corruption and democracy' 45(8) *Applied Economics* 991
- Matthews R, P Selman, 'Landscape as a Focus for Integrating Human and Environmental Processes' (2006) 57(2) *Journal of Agricultural Economics* 199
- Mauro P, 'Corruption and growth' (1995) 110 Q *J Econ* 681
- McAlpine CA, A Etter, PM Fearnside, L Seabrook, WF Laurence, 'Increasing world consumption of beef as a driver of regional and global change: A call for policy action based on evidence from Queensland (Australia), Colombia and Brazil' (2009) 19 *Gl. Env. Ch.* 21
- McElwee P, 'You Say Illegal, I Say Legal: The Relationship Between 'Illegal' Logging and Land Tenure, Poverty, and Forest Use Rights in Vietnam' (2004) 19(1-3) *J. of Sust. For.* 97
- McNeely JA, 'The future of national parks' (1990) 32 *Environmental Education* 16
- Mendonca ML, 'Monocropping for Agrofuels: The case of Brazil' (2011) 54(1) *Development* 98
- Méon P, L Weill, 'Is Corruption an Efficient Grease?' (2010) 38(3) *World Development* 244–59
- Meyer WB, BL Turner, Human population growth and global land-use/cover change, (1992) 23 *Annual review of ecology and systematics* 39
- Mitchell B, Integrated water resource management, institutional arrangements, and land-use planning (2005) 37 *Environment and Planning A* 1335

- Mitchell D, J Zevenbergen, 'Toward Administration Systems to Support Climate Change Mitigation projects' (2011) *Land Tenure Journal* 260
- Morton J, 'Fuelwood consumption and woody biomass accumulation in Mali, West Africa' (2007) *5 Ethnobotany Research & Applications* 37
- Mukum Mbaku J, 'Bureaucratic Corruption in Africa: The Futility of Cleanups' (1996) *6(1) CATO Journal*
- Murombo T, 'Strengthening Locus Standi In Public Interest Environmental Litigation: Has Leadership Moved From The United States To South Africa?' (2010) *6/2 LEAD* 163
- Mwampamba TH, 'Has the woodfuel crisis returned?: Urban charcoal consumption in Tanzania and its implications to present and future forest availability' (2007) *35(8) En. Pol.* 4221
- Nagendra H, E Ostrom, 'Polycentric governance of multifunctional forested landscapes' (2012) *6(2) Int. J. of the Commons* 104
- Nazareno G, TE Lovejoy, 'Energy production: Giant dam threatens Brazilian rainforest' (2011) *478(37) Nature*
- Nemani RR, CD Keeling, H Hashimoto, WM Jolly, SC Piper, CJ Tucker, RB Myneni, SW Running, 'Climate-Driven Increases in Global Terrestrial Net Primary Production from 1982 to 1999' (2003) *300(5625) Science* 1560
- Nepstad DC, 'Amazon drought and its implications for forest flammability and tree growth: a basin-wide analysis' (2004) *10(5) Gl Ch Bio* 704
- Nepstad DC, CM Stickler, OT Almeida, 'Globalization of the Amazon soy and beef industries: opportunities for conservation' (2006) *20 Cons. Biology* 1596
- Newig J, O Fritsch, 'Environmental Governance: Participatory, Multi-Level – and Effective?' (2009) *19 Env. Pol. Gov.* 199
- O'Higgins E, 'Corruption, Underdevelopment, and Extractive Resource Industries: Addressing the Vicious Circle' (2006) *16(2) Business Ethics Quarterly* 235
- Ostrom E, 'Coping with Tragedy of the Commons' (1999) *2 Annual Rev. of Pol. Sc.* 493

- Pacheco P, 'Smallholder livelihoods, wealth and deforestation in the Eastern Amazon' (2009) 37 *Human Ecology* 27
- Pacheco P, M Aguilar-Stoen, J Borner, A Etter, L Putzel, M Vera Diaz 'Landscape Transformation in Tropical Latin America: Assessing Trends and Policy Implications for REDD-plus' (2011) 2 *Forests* 17
- Page SE, 'The amount of carbon released from peat and forest fires in Indonesia during 1997' (2002) 420 *Nature* 61
- Palmer G, 'New Ways to Make International Environmental Law' (1992) 86(2) *American Journal of International Law* 259
- Pan Y, 'A Large and Persistent Carbon Sink in the World's Forests' (2011) 6045(333) *Science* 988
- Paoli GD, B Yaap, PL Wells, A Sileuw, 'CSR, oil palm and the RSPO: Translating boardroom philosophy into conservation action on the ground' (2010) 3 *Tropical Cons. Science* 438
- Papadopoulos Y, 'Problems of democratic accountability in network and multilevel governance' (2007) 13(4) *European Law Journal* 469
- Parrya ML, C Rosenzweig, A Iglesias, M Livermore, G Fischere, 'Effects of climate change on global food production under SRES emissions and socio-economic scenarios', (2004) 14 *Gl. Env. Ch.* 53
- Pasgaard M, L Chea, 'Double Inequity? The Social Dimensions of Deforestation and Forest Protection in Local Communities in Northern Cambodia' (2013) 6(2) *ASEAS* 330
- Peck J, A Tickell, 'Neoliberalizing Space' (2002) 34(3) *Antipode* 384
- Pellizzoni L, 'Uncertainty and participatory democracy' (2003) 12(2) *Environmental Values* 195
- Peters BG, J Pierre, 'Governance without Government? Rethinking Public Administration' (1998) *J-PART* 226
- Phelps J, EL Webb, A Agrawal, 'Does REDD+ Threaten to Recentralize Forest

- Governance?' (2010) 328 *Science* 312
- Phillips OL, 'Drought Sensitivity of the Amazon Rainforest' (2009) 323(5919) *Science* 1344
- Pierce SM, RM Cowling, AT Knight, AT Lombard, M Rouget, T Wolf, 'Systematic conservation planning products for land-use planning: Interpretation for implementation' (2005) 125 *Biological Conservation* 441
- Poteete A, 'Levels, Scales, Linkages, and Other 'Multiples' affecting Natural Resources' (2012) 6(2) *International Journal of the Commons* 134
- Radaelli CM, 'Getting to Grips with Quality in the Diffusion of Regulatory Impact Assessment in Europe' (2004) 24(5) *Public Money & Management* 271
- Rajamani L, 'The Principle of Common but Differentiated Responsibility and the Balance of Commitments under the Climate Regime' (2000) 9(2) *RECIEL* 120-31;
- Rankin KN, 'Governing development: neoliberalism, microcredit, and rational economic woman' (2000) 30 *Economy and Society* 18
- Reydon BP, 'The agrarian issue in Brazil requires land governance' (2011) 1 *Land Tenure Journal*
- Rhodes RAW, 'The Hollowing Out of the State' (1994) 65 *Political Quarterly* 138
- Ribot JC, A Agrawal, AM Larson, 'Recentralizing While Decentralizing: How National Governments Reappropriate Forest Resources' (2006) 34(11) *World Development* 1864
- Ribot JC, A Larson, 'Reducing REDD risks: Affirmative policy on an uneven playing field' (2012) 6(2) *Int. J. of the Commons* 249
- Ribot JC, N Peluso, 'A Theory of Access' (2003) 68(2) *Rural Sociology* 153
- Richardson T, OB Jensen, 'Discourses of mobility and polycentric development: A contested view of European spatial planning' (2000) 8(4) *European Planning Studies* 503
- Rockström J, 'A safe operating space for humanity' (2009) 461(24) *Nature* 472

- Rosembaum KL, 'Illegal Actions and the Forest Sector: A Legal Perspective' (2004) 19 (1-3) J. of Sust. For. 263
- Rudel TK, RS DeFries, GP Asner, WF Laurance, 'Changing drivers of deforestation and new opportunities for conservation' (2009) 23 Conservation Biology 1396
- Rudorff BFT, M Adami, DA Aguiar, MA Moreira, MP Mello, L Fabiani, DF Amaral, BM Pires 'The soy moratorium in the Amazon biome monitored by remote sensing images' (2011) 3 Remote Sensing 185
- Salzman J, 'Teaching Policy Instrument Choice in Environmental Law: The Five P's' (2013) 23(2) Duke Environmental Law & Policy 363
- Santilli M, P Moutinho, S Schwartzman, D Nepstad, L Curran, C Nobre, 'Tropical deforestation and Kyoto Protocol' (2005) 71(3) Climatic Change 267
- Sasaki N, FE Putz, 'Critical need for new definitions of "forest" and "forest degradation" in global climate change agreements' (2009) 2(5) Conserv. Lett. 226
- Sayer H, J McNeely, S Maginnis, I Boedihaptono, G Shepherd, B Fisher, *Local rights and tenure for forests: opportunity or threat for conservation?* (Rights and Resources Initiative 2008)
- Sayer J, G Bullb, C Elliott, 'Mediating Forest Transitions: 'Grand Design' or 'Muddling Through' (2008) 6(4) Conservation and Society 320
- Schaeffer R, RL Vianna-Rodrigues, 'Underlying causes of deforestation' (2005) 307(5712) Science 1046
- Schanz H, 'National forest programmes as discursive institutions' (2002) 4 FORPOL 269-71
- Schatz SP, 'Structural Adjustment in Africa: A Failing Grade So Far' (1994) 32(4) Journal of Modern African Studies 679
- Schenk A, M Hunziker, F Kienast, 'Factors influencing the acceptance of nature conservation measures: A qualitative study in Switzerland' (2007) 83 Journal of Environmental Management 66
- Schlager E, E Olstrom, 'Property-Rights Regimes and Natural Resources: A Conceptual

- Analysis' (1992) 68(3) *Land Economics* 249
- Schwarze R, JO Niles, J Olander, 'Understanding and Managing Leakage in Forest-Based Greenhouse Gas Mitigation Projects' (2002) 360 *Phil. Trans. R. Soc. Lond. A* 1685
- Selfa T, J Endter-Wada, 'The politics of community-based conservation in natural resource management: a focus for international comparative analysis' (2008) 40 *Environment and Planning A* 962
- Seligson M, 'The Measurement and Impact of Corruption Victimization: Survey Evidence from Latin America' (2006) 34 (2) *World Development* 381
- Shearman PL, J Ash, B Mackey, JE Bryan, B Lokes, 'Forest Conversion and Degradation in Papua New Guinea 1972–2002', (2009) 41(3) *Biotropica* 379
- Sievern M, P Vandenberg, 'Synergies through Linkages: Who Benefits from Linking Micro-Finance and Business Development Services?' (2007) 35(8) *World Development* 1341
- Skutsch M, PE Van Laake, 'REDD as multi-level governance in-the-making' (2008) 19(6) *Energy & environment* 831
- Steele J, 'Participation and deliberation in environmental law: exploring a problem-solving approach' (2001) 21(3) *Oxford Journal of Legal Studies* 415
- Strassburg B, K Turner, B Fisher, R Schaeffer, A Lovett, 'Reducing emissions from deforestation: the "combined incentives" mechanism and empirical simulations' (2008) 19(2) *Glob Env Ch* 265
- Stringer LC, MS Reed, AJ Dougill, MK Seely, M Rokitzki, 'Implementing the UNCCD: Participatory challenges' (2007) 31(3) *Issue Natural Resources Forum* 198
- Swenson JJ, CE Carter, JC Domec, CI Delgado, 'Gold Mining in the Peruvian Amazon: Global Prices, Deforestation, and Mercury Imports', (2011) 6(4) *PLoS ONE*
- Thomas S, P Dargush, S Harrison, J Herbohn, 'Why are there so few afforestation and reforestation Clean Development Mechanisms projects?' (2010) 28 *Land Use Policy* 880
- Tomaselli MF, R Hajjar, 'Promoting Community Forestry Enterprises in National

- REDD+ Strategies: A Business Approach' (2011) 2 Forests 283
- Van der Werf GR, DC Morton, RS DeFries, JGJ Olivier, PS Kasibhatla, RB Jackson, GJ Collatz, JT Randerson, 'CO2 emissions from forest loss' (2009) 2 Nature Geoscience 737
- Wassenaar T, P Gerber, PH Verburg, M Rosales, M Ibrahim, H Steinfeld, 'Projecting land use changes in the neotropics: The geography of pasture expansion into forest' (2007) 17 Global Environmental Change 86
- Wenner MD, N Wright, A Lal, 'Environmental Protection and Microenterprise Development in the Developing World a Model Based on the Latin American Experience' (2004) 6(1) Journal of Microfinance
- Whatmore S, S Boucher, 'Bargaining with Nature: The Discourse and Practice of 'Environmental Planning Gain'' (1993) 18(2) Transactions of the Institute of British Geographers 169
- Wiener JB, 'Global Environmental Regulation: Instrument Choice in Legal Context' (1999) 108 Yale L. J. 683
- Wiessner S, 'The Cultural Rights of Indigenous Peoples: Achievements and Continuing Challenges' (2011) EJIL 121
- Williamson OE, 'Economic Institutions: Spontaneous and Intentional Governance' (1991) 7(Special Issue) Journal of Law, Economics, & Organization 159
- Winterbottom R, 'The Tropical Forestry Action Plan: Is it Working?' (1995) 15(1) NAPA Bulletin 60
- Wirsenius S, F Hedenus, K Mohlin, 'Greenhouse gas taxes on animal food products: Rationale, tax scheme and climate mitigation effects' (2010) Climatic Change 1
- Wollenberg E, B Campbell, E Dounias, P Gunarso, M Moeliono, D Shei, 'Interactive land use planning in Indonesian rain-forest landscapes: reconnecting plans to practice' (2008) 14(1) Ecology & Society
- Woo J, U Heo, 'Corruption and Foreign Direct Investment Attractiveness in Asia' (2009) 1(2) Asian Politics & Policy 223
- Wunder S, 'The Efficiency of Payments for Environmental Services in Tropical

Conservation' (2006) 21(1) Conservation Biology 48

Ylhaisi J, 'Sustainable privatisation involving participatory land use planning in rural areas: An example from Tanzania' (2011) 1(10) Land Tenure Journal 92

Xhantaki A, 'Indigenous rights in international law over the last 10 years and future developments' (2009) 10 Melb. J. Int'l L. 27

Zhao M, SW Running, 'Drought-Induced Reduction in Global Terrestrial Net Primary Production from 2000 Through 2009' (2010) 329(5994) Science 940

Reports and policy papers

-- *Forest Project Protocol* (Version 3.3, Climate Action Reserve 2012)

<www.climateactionreserve.org/how/protocols/forest/dev/version-3-3/> Accessed 11 February 2014

-- *The Government of Norway's International Climate and Forest Initiative* (Norwegian Government Administration Services 2012)

--, *Jurisdictional and Nested REDD Initiative: Summary of Technical Recommendations* (Version 2.0, Voluntary Carbon Standard 2012) <www.v-c-s.org/sites/v-c-s.org/files/Summary%20of%20Technical%20Recommendations%20V2%200.pdf> Accessed 11 February 2014

--, *Pilot Forest Carbon Trust Fund: Rewarding local communities for forest conservation for instance* (ICIMOD 2011) <http://communitycarbonforestry.org/icimod-pilot_forest_carbon_trust_fund_.pdf> Accessed 1 February 2014

--, *The Future of Food and Farming - Final Project Report* (The Government Office for Science 2011) 64

Aidt T, J Dutta, V Sena, Growth, *Governance and Corruption in the Presence of Threshold Effects: Theory and Evidence* (University of Cambridge, 2006)
<<http://econpapers.repec.org/paper/camcamdae/0540.htm>>

Almeida F, J Hatcher, A White, A. Corriveau-Bourque, Z. Hoffman, *What Rights? A Comparative Analysis of Developing Countries' National Legislation on Community*

- and Indigenous Peoples' Forest Tenure Rights* (RRI 2012)
- Angelsen A, D Boucher, S Brown, C Streck, V Merckx, D Zarin, *Modalities for REDD+ Reference Levels: Technical and Procedural Issues* (Meridian Institute 2011)
- Angelsen A, S Brown, C Loysel, L Peskett, C Streck, D Zarin, *Reducing Emissions from Deforestation and Forest Degradation (REDD): An Options Assessment Report* (Meridian Institute 2009)
- Arial A, C Fagan, W Zimmermann, *Corruption in the Land Sector* (FAO/TI 2011) <www.fao.org/docrep/014/am943e/am943e00.pdf> Accessed 11 February 2014
- Arriagada R, C Perrings, *Making Payments for Ecosystem Services Work* (UNEP 2009)
- Austin K, F Stolle, S Sheppard, *Indonesia's Moratorium on New Forest Concessions* (WRI 2012) <www.wri.org/publication/indonesias-moratorium-new-forest-concessions> Accessed 9 February 2014
- Ayalew Ali D, K Deininger, M Goldstein, *Environmental and Gender Impacts of Land Tenure Regularization in Africa Pilot evidence from Rwanda* (World Bank 2011)
- Baker & McKenzie/Buddle Findlay, *Mechanisms for Recognising Rights to Carbon Sequestered by Land-based Activities in New Zealand* (Baker's & McKenzie 2008) <<http://maxa.maf.govt.nz/climatechange/reports/mechanisms-for-recognising-rights/mechanisms-for-recognising-rights.pdf>> Accessed 10 February 2014
- Barano T, E McKenzie, N Bhagabati, M Conte, D Ennaanay, O Hadian, N Olwero, H Tallis, S Wolny, G Ng, *Integrating Ecosystem Services into Spatial Planning in Sumatra, Indonesia* (TEEB 2010)
- Bertzky B, C Corrigan, J Kemsey, S Kenney, C Ravillous, C Besancon, N Burgess, *Protected Planet Report 2012: Tracking progress towards global targets for protected areas* (IUCN/UNEP 2012)
- BIC/FPP, *Comments on the Revised R-PP Template, SESA and ESMF Guidelines* (BIC 2010) <www.bicusa.org/wp-content/uploads/2013/02/FCPF+UN-REDD+Stakeholder+Guidelines+Note+Draft+11-17-10+2-1.pdf> Accessed 10 February 2014
- Blaser J, *Forest law compliance and governance in tropical countries: A region-by-*

- region assessment of the status of forest law compliance and governance in the tropics, and recommendations for improvement* (ITTO/FAO 2010)
- Bodemeyer R, *National Action Programmes under UNCCD: Rules and Reality* (GTZ 2007)
- Bollen A, S Ozinga, *Improving Forest Governance: A Comparison of FLEGT VPAs and their Impact* (FERN 2013)
 <www.fern.org/sites/fern.org/files/VPAComparison_internet_0.pdf> Accessed 10 February 2014
- Boucher D, *Brazil's Success in Reducing Deforestation* (UCS 2011)
 <http://www.ucsusa.org/assets/documents/global_warming/Brazil-s-Success-in-Reducing-Deforestation.pdf> Accessed 10 February 2014
- Boucher D, P Elias, K Linger, C May-Tobin, S Roquemore, E Saxon, *What's Driving Tropical Deforestation Today?: The Root of the Problem* (UCS Publications 2011)
- Brack D, C Léger, *Exploring credibility gaps in Voluntary Partnership Agreements: A review of independent monitoring initiatives and lessons to learn* (Independent report 2013) <www.fern.org/sites/fern.org/files/IM-VPAsFinalWeb_EN.pdf> Accessed 10 February 2014
- Brook PJ, P Stein, *Financial Infrastructure: Building Access Through Transparent and Stable Financial Systems* (World Bank 2009)
- Campbell B, W Mann, R Meléndez-Ortiz, C Streck, T Tennigkeit, *Climate Change and Agriculture: A Scoping Report* (Meridian Institute 2011)
- CBD, *Connecting Biodiversity and Climate Change Mitigation and Adaptation: Report of the Second Ad Hoc Technical Expert Group on Biodiversity and Climate Change* (CBD Secretariat 2009)
- CBD, *Interlinkages Between Biological Diversity And Climate Change: Advice on the integration of biodiversity considerations into the implementation of the United Nations Framework Convention on Climate Change and its Kyoto Protocol* (CBD Secretariat 2003)
- CBD, *REDD-plus and Biodiversity* (CBD Secretariat 2011)

- CBD, *Global Monitoring Report 2010: Innovative Financing for Biodiversity* (CBD Secretariat 2011) <www.cbd.int/financial/doc/global-monitoring-report-en.pdf> Accessed 10 February 2014
- CBD, *The Biodiversity Planning Process: How to Prepare or Update a National Biodiversity Strategy and Action Plans* (NBSAP training modules version 2.1, CBD Secretariat 2011) <www.cbd.int/doc/training/nbsap/b2-train-prepare-update-nbsap-revised-en.pdf> Accessed 10 February 2014
- Chagas T, C Streck, R O'Sullivan, J Olander, J Seifert-Granzin, *Nested Approaches to REDD+: An Overview of Issues and Options* (Climate Focus/Forest Trends 2010) <<http://theredddesk.org/resources/nested-approaches-redd-overview-issues-and-options>> Accessed 31 January 2014
- Chagas T, J Costenbader, C Streck, S. Roe, *Reference Levels: Concepts, Functions, and Application in REDD+ and Forest Carbon Standards* (Climate Focus 2013)
- CIFOR, *CIFOR's Global Comparative Study on REDD+, Factsheets on research findings and goals* (CIFOR 2014) <www.cifor.org/publications/pdf_files/factsheet/4259-factsheet.pdf> Accessed 7 February 2014
- Claudell S, *Developing Palm-oil Production On Degraded Land* (YEL/PanEco/ICRAF 2011) <www.ifc.org/wps/wcm/connect/adf573004a682a88852cfd998895a12/BACP-PanEco.Developing-degradedland-report.pdf?MOD=AJPERES> Accessed 11 February 2014
- Cohn A, M Bowman, D Zilberman, K O'Neill, *The Viability of Cattle Ranching Intensification in Brazil as a Strategy to Spare Land and Mitigate Greenhouse Gas Emissions* (CCAFS 2011)
- Colchester M, M Farhan, *Making FPIC – Free, Prior and Informed Consent – Work: Challenges and Prospects for Indigenous Peoples* (Forest People Programme 2009)
- Contreras-Hermosilla A, *Law compliance in the forestry sector: an overview* (World Bank 2001) <<http://siteresources.worldbank.org/EXTFORESTS/Resources/985784-1217874560960/Contreras.pdf>> Accessed 10 February 2014
- Contreras-Hermosilla A, R Doornbosch, M Lodge, *Round table on sustainable*

- development: The economics of illegal logging and associated trade* (OECD 2007)
- Conway D, L Pritchard, *Lowering Emissions in Asia's Forests (LEAF): International experience with REDD+ and national forest funds* (USAID 2013)
- Cortez R, R Saines, B Griscom, M Martin, D De Geo, G Fishbein, J Kerkering, D Marsh, *A Nested Approach to REDD+: Structuring Effective and transparent Incentive Mechanism for REDD+ implementation at Multiple Scales* (TNC 2010)
- Cotula L, J Myers, *Tenure in REDD: Start-point or afterthought?* (IIED 2009)
- Daviet F, G Larsen, *Safeguarding Forests and People: A Framework for Designing a National System to Implement REDD+ Safeguards* (WRI 2012)
- Deininger K, C Augustinus, S Enemark, P Munro-Faure, *Innovation in Land Rights Recognition, Administration, and Governance* (World Bank 2010)
- Dooley K, *FW Special Report: Doha climate talks, November 26 – December 7, 2012* (EU Forest Watch 2013) <www.fern.org> Accessed 11 June 2013
- Dudley N (ed.), *Guidelines for Applying Protected Area Management Categories* (IUCN 2008)
- Dunn H, *Payments for Ecosystem Services* (DEFRA 2011)
- EC, *Report of the working group on 'better regulation'* (EC 2001)
- EEA, *Opinion of the EEA Scientific Committee on Greenhouse Gas Accounting in Relation to Bioenergy* (European Environment Agency, 15 September 2011) <www.eea.europa.eu/about-us/governance/scientific-committee/sc-opinions/opinions-on-scientific-issues/sc-opinion-on-greenhouse-gas/view> Accessed 8 February 2014
- Eid A, *The Right to Food and the Impact of Liquid Biofuels* (FAO 2008)
- EU REDD Facility, *Linking FLEGT and REDD+* (EFI and Proforest 2014) <http://www.euredd.efi.int/files/attachments/euredd/documents_2014/linking_flegred_d_brief.pdf> Accessed 13 August 2014
- FAO, *Forest Resource Assessment 1990* (FAO 1995)
- FAO, *Global Forest Resource Assessment 2010* (FAO 2010)

- FAO, *Global Information and Early Warning System on Food and Agriculture: Crop Prospects and Food Situation* (No. 2, FAO 2009)
- FAO, *Understanding forest tenure in South and Southeast Asia* (FAO 2009)
- FAO, *Understanding national forest programmes: Guidance for practitioners* (FAO 2006)
- FCPF/UN-REDD, *Readiness Preparation Proposal, Template Version 6, for Country Use and Public Comment* (World Bank 2011)
- FIELD, *Guide for REDD-plus Negotiators* (FIELD 2011)
<www.field.org.uk/files/fieldguideredd-plusnegotiatorseng_022011_webs.pdf>
Accessed November 2012
- Filer C, N Sekhran, *Loggers, Donors and Resource Owners: Policies That Work for Forests and People* (IIED 1998)
- Fischer G, E Hiznyik, S Prieler, M Shah, H Van Velthuisen, *Biofuels and Food Security: Implications of an accelerated biofuels production* (IIASA 2009)
- Forstater M, C Watson, S Nakhoda, *The effectiveness of climate finance: a review of the Amazon Fund* (ODI 2013) 11 <www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8340.pdf> Accessed 12 February 2014
- French W, L Natarajan, *Self-diagnostic Assessments of the Capacity for Planning Worldwide: Key Findings Report* (GPN/RPI 2008)
- French W, L Natarajan, *Some Perceptions of Latin America Planning Priorities: An analysis of responses to the Self-Diagnostic Assessment of the Capacity for Planning Worldwide* (GPN/RPI 2009)
- Gallagher E (ed.), *The Gallagher review of the indirect effects of biofuels production* (Renewable Fuels Agency 2008)
- Gingold B, A Rosenbarger, YK Deddy Muliastra, F Stolle, M Sudana, MD Mandini Manessa, A Murdimanto, S Bagas Tiangga, C Cicik Madusari, P Douard, *How to Identify Degraded Land for Sustainable Palm Oil in Indonesia* (WRI/Sekala 2012)
- Goers-Williams L, C Davis, S Lupberger, F Daviet, *Getting Ready: A Review of the*

- World Bank Forest Carbon Partnership Facility Readiness Preparation Proposals* (WRI 2012) <www.wri.org/publication/getting-ready> Accessed 10 February 2014
- Graham K, R Vignola, *REDD-plus and agriculture: A cross-sectoral approach to REDD-plus and implications for the poor* (ODI/CATIE 2011)
- Grüning C, C Menzel, L Susanne S, V Sonntag-O'Brien, *Case Study: The Indonesia Climate Change Trust Fund* (Frankfurt School of Finance & Management 2012) <<http://fs-unep-centre.org/publications/case-study-indonesia-climate-change-trust-fund-icctf>> Accessed 12 February 2014
- GW, *Building Confidence in REDD: Monitoring Beyond Carbon* (Global Witness 2009)
- Hagen RT, *A Guide for Countries preparing National Biodiversity Strategies and Action Plans* (UNDP 1999)
- Hatcher J, *Securing Tenure Rights and Reducing Emissions from Deforestation and Degradation (REDD): Costs and Lessons Learned* (World Bank 2008) <http://www.rightsandresources.org/documents/files/doc_1474.pdf> Accessed 14 February 2014
- Hirakuri S, *Can the Law Save the Forest? Lessons from Finland and Brazil* (CIFOR 2003)
- Hoare AL, *Divided Forests: towards fairer zoning of forest lands* (RFUK 2006)
- HRW, *Wild Money: The Human Rights Consequences of Illegal Logging and Corruption in Indonesia's Forestry Sector* (Human Rights Watch 2009)
- Hyde WF, B Belcher, J Xu (eds.), *China's forests: global lessons and market Reforms* (RFF/CIFOR 2003)
- Interpol, *National Environmental Security Task Force: Bringing Compliance and Enforcement Agencies Together to Maintain Environmental Security* (Interpol 2012)
- IPAM, *Brazil's "Low-Carbon Agriculture" Program: Barriers to Implementation* (IPAM 2012) <www.gcftaskforce.org/documents/brazil's_low-carbon_agriculture_program.pdf> Accessed 12 February 2014
- ITTO, *Achieving the ITTO Objective 2000 and Sustainable Forest Management in Papua*

- New Guinea* (ITTO 2007)
- IUCN, *An Introduction to the African Convention on the Conservation of Nature and Natural Resources* (IUCN 2004)
- Johns T, E Johnson, G Greeglass (eds.), *An Overview of Readiness for REDD: A compilation of readiness activities prepared on behalf of the Forum on Readiness for REDD* (Version 2, WHRC 2009)
- Karsenty A, *Financing options to support REDD+ activities: Based on a review of the literature, Report for the European Commission DG Climate Action* (CIRAD 2012)
- Kaufmann D, A Kraay, M Mastruzzi, *The Worldwide Governance Indicators: Methodology and Analytical Issues* (World Bank 2010)
- Kossoy A, P Guigon, *The State and Trends of the Carbon Market 2012* (World Bank 2012)
- Lawson S, L MacFaul, *Illegal Logging and Related Trade Indicators of the Global Response* (Chatham House 2010)
- LCA, *A Climate of Change: Final report of the LGA Climate Change Commission* (Local Governments Association 2007)
<<http://webarchive.nationalarchives.gov.uk/20080527101153/http://www.lga.gov.uk/lga/aio/20631>> Accessed 11 February 2014
- Leopold A, *Agroecological Zoning, Brazil* (TEEB 2010)
- Macqueen D, *Supporting Small Forest Enterprises: A Cross-Sectoral Review of Best Practice* (IIED 2008)
- Mandondo A, E Mapedza, *Allocation of Governmental Authority and Responsibility in Tiered Governance Systems: the Case of Environment-related laws in Zimbabwe* (WRI 2003) <http://pdf.wri.org/eea_mandondo.pdf> Accessed 12 February 2014
- Metcalf J, F Vorhies, *Exploring the case for a green development mechanism* (CBD 2010) <www.cbd.int/financial/doc/gdm-exploring-the-case-en.pdf> Accessed 9 February 2014
- Molnar A, M Liddle, C Bracer, A Khare, A White, J Bull, *Community-based forest enterprises in tropical forest countries: status and potential* (ITTO/RRI/Forest Trends

- 2007) <www.rightsandresources.org/documents/files/doc_3453.pdf> Accessed 11 February 2014
- Molnar A, S Scherr, *Who conserves the world's forests?: Community driven strategies that protect forests and respect rights* (Forest Trends 2003)
- Munden L, P Holmgren, R Reeve, P Riggs, R Prabhu, B Bowie, B Deljurie, S Subbakrishna, E Cheney, *Inari: A proposal for financing sustainable land use at scale* (Munden Project 2012) <www.fao.org/docrep/016/ap076e/ap076e.pdf> Accessed 12 February 2014
- Munden L, *REDD and Forest Carbon: Market-Based Critique and Recommendations* (The Munden Project, 2011)
- Najam A, M Papa, N Taiyab, *Global Environmental Governance: A Reform Agenda* (IISD 2006)
- Nhantumbo I, M Camargo, *Carbon rights legislation: not yet ready for private sector REDD+* (IIED 2013) <<http://pubs.iied.org/17148IIED.html>> Accessed 11 February 2014
- OECD, *Measuring aid targeting the objectives of the Rio Conventions* (OECD 2009) <www.oecd.org/dac/stats/analyses> Accessed 10 February 2014
- OECD, *Paying for Biodiversity: Enhancing the Cost-Effectiveness of Payments for Ecosystem Services (PES)* (OECD 2010)
- OECD/FAO, *OECD-FAO agricultural outlook 2010–2019* (OECD 2010)
- Olsen N, J Bishop, *The Financial Costs of REDD: Evidence from Brazil and Indonesia* (IUCN 2009)
- Palmer D, S Fricska, B Wehrmann, *Towards improved land governance* (UN-HABITAT 2011)
- Parry J, J Boyle, *Addressing Financing for Agriculture: Ensuring a triple dividend for smallholders* (IISD 2012)
- Pedroni L, C Streck, M Estrada, M Dutschke, *The 'Nested Approach': A flexible mechanism to reduce emissions from deforestation* (CATIE 2007)

- Peskett L, D Huberman, E Bowen-Jones, G Edwards, J Brown, *Making REDD work for the poor* (ODI 2008) <www.odi.org.uk/sites/odi.org.uk/files/odi-assets/publications-opinion-files/3451.pdf> Accessed 13 February 2014
- Peters-Stanley M, K Hamilton, D Yin, *Leveraging the Landscape: State of the Forest Carbon Markets 2012* (Ecosystem Marketplace 2012) <http://www.forest-trends.org/documents/files/doc_3242.pdf> Accessed 9 February 2014
- Pfaff A, EO Sills, GS Amacher, MJ Coren, K Lawlor, C Streck, *Policy Impacts on Deforestation: Lessons Learned from Past Experiences to Inform New Initiatives* (Duke University 2010)
- Porras I, DN Barton, M Miranda, A Chacón-Cascante, *Learning from 20 years of Payments for Ecosystem Services in Costa Rica* (IIED 2013) <<http://pubs.iied.org/16514IIED.html>> Accessed 12 February 2014
- Prevention of Corruption Bureau, *The incidences of corruption in the land sector* (Government of Tanzania 2005)
- Prince's Rainforest Project, *An Emergency Package for Tropical Forests* (Clarence House 2009)
- PWC, *National REDD+ funding frameworks and achieving REDD+ – findings from readiness consultation* (Price Waterhouse Coopers 2009)
- Rademaekers K, L Eichler, J Berg, M Obersteiner, P Havlik, *Study on the evolution of some deforestation drivers and their potential impacts on the costs of an avoiding deforestation scheme* (ECORYS 2011)
- Ramsar Secretariat, *Ramsar Small Grants Fund for Wetland Conservation and Wise Use (SGF): Operational Guidelines for the Triennium 2009-2012* (Ramsar Secretariat 2009)
- Roburgh C, S Lund, J Piotrowski, *Mapping global capital markets in 2011* (McKinsey Global Institute 2011)
- RSPO, *Transforming the market to make sustainable palm oil the norm* (Roundtable on Sustainable Palm Oil 2012) <[http://www.rspo.org/file/IG-1%20\(Low%20Res\).pdf](http://www.rspo.org/file/IG-1%20(Low%20Res).pdf)> Accessed 10 February 2014

- Rutt RL, *Social protection in REDD+ initiatives: A Review* (University of Copenhagen, Copenhagen 2012)
<www.theredddesk.org/sites/default/files/resources/pdf/2012/redd_plus_social_protections_rfgi_working_paper_rebecca_rutt__4_jan_2012.pdf> Accessed 10 February 2014
- Sharma A, *Planning to deliver: Making the Rio Conventions more Effective on the Ground: Climate Change, Biodiversity, Desertification* (GTZ 2009)
- Shyamsundar P, E Araral, S Weeraratne, *Devolution of Resource Rights, Poverty, and Natural Resource Management: A Review* (World Bank 2005)
- Spergel B, P Taïeb, *Rapid Review of Conservation Trust Funds* (Conservation Finance Alliance 2008) <www.conservation.org/global/gcf/Documents/rapid_review.pdf> Accessed 12 February 2014
- Streck C, M Zurek, *Addressing Agricultural Drivers of Deforestation: Opportunities for Catalytic Donor Interventions* (Climate Focus 2013)
- Sunderlin W, J Hatcher, M Liddle, *From Exclusion to Ownership? Challenges and Opportunities in Advancing Forest Tenure Reform* (RRI 2008)
- Swiderska K, *Mainstreaming biodiversity in development policy and planning: A review of country experience* (IIED 2002)
- Takacs D, *Forest Carbon: Law and property rights* (CI 2009)
- TCG, *Background Analysis of REDD Regulatory Frameworks* (The Carbon Group/UN-REDD, 2009)
- Thillairajah S, *Development of Rural Financial Markets in Sub-Saharan Africa* (World Bank 1994)
- Thompson I, Mackey B, McNulty S, Mosseler A, *Forest Resilience, Biodiversity, and Climate Change. A synthesis of the biodiversity/resilience/stability relationship in forest ecosystems* (CBD Secretariat 2009).
- Thorpe A, L Ogle, *Staying on Track: Tackling Corruption Risks in Climate Change* (UNDP 2011)

- Trivelli C, H Venero, *Agricultural Development Banking: Lessons from Latin America?* (Instituto de Estudios Peruanos 2007)
- UNCCD, *Integrated Financing Strategies for Sustainable Land Management* (Global Mechanism of the UNCCD 2008)
- UNCCD, *PRAIS reports: CRIC11* (UNCCD 2012) <www.global-mechanism.org/en/feature-story/analysis-of-financial-flows-to-unccd-related-activities-reveals-increase-in-resources> Accessed 12 December 2013
- UNDP, *A guide to the UNDP Democratic Governance Practice* (UNDP 2010) <www.beta.undp.org/content/undp/en/home/librarypage/democratic-governance/dg-publications/a-guide-to-undp-democratic-governance-practice-.html> Accessed 10 February 2014
- UNEP, *From Conflict to Peace-building: The Role of Natural Resources and the Environment* (UNEP 2009) <www.un.org/en/peacebuilding/pdf/doc_wgll/environment_conflict/wgll_background_note_08_05_2008.pdf> Accessed 12 February 2014
- UNEP, *REDDy, Set, Grow Part 2 - Private sector suggestions for international climate change negotiators: Designing an effective regime for financing forest-based climate change mitigation* (UNEP 2011)
- UNEP, *REDDy, Set, Grow, Part 1 - A briefing for financial institutions: Opportunities and roles for financial institutions in forest carbon markets* (UNEP 2011)
- USDOl, *Land Use Planning Handbook* (US Department of the Interior 2005)
- Verchot LV, E Petkova, K Obidzinski, S Atmadja, EL Yuliani, A Dermawan, D Murdiyarso, S Amira, *Reducing forestry emissions in Indonesia* (CIFOR 2010)
- Wendland K, *Rewards for ecosystem services and collective land tenure: lessons from Ecuador and Indonesia* (USAID 2008)
- Wertz-Kanounnikoff S, M Kongphan-apirak, *Emerging REDD+: A preliminary survey of demonstration and readiness activities* (CIFOR 2009)
- Westholm L, *Getting ready for REDD-plus* (Focali 2010)

- Westholm L, M Ostwald, S Henders, E Mattsson, *Learning from Norway: A review of Lessons Learned for REDD+ Donors* (Focali 2011)
- White A, A Martin, *Who owns the world's forests?: Forest tenure and public forests in transition* (Forest Trends 2002)
- White D, P Minang, *Estimating the opportunity costs of REDD+: A training manual* (version 1.3, World Bank 2011)
- Wiessner S, *United Nations Declaration on the Rights of Indigenous Peoples* (United Nations Audiovisual Library of International Law 2009)
<<http://65.60.52.92/sites/default/files/undeclarationontherightsofindigenouspeoples.pdf>> Accessed 13 August 2014.
- World Bank, *BioCarbon Fund, Initiative for Sustainable Forest Landscapes* (World Bank 2013)
<www.worldbank.org/content/dam/Worldbank/document/SDN/BioCF_ISFL_Flyer.pdf> Accessed 10 February 2014
- World Bank, *Convenient Solutions to an Inconvenient Truth: Ecosystem-based Approaches to Climate Change* (World Bank 2009)
- World Bank, *Incentivizing the Involvement of the Private Sector in REDD+: A review of early experiences and lessons learned in the Forest Investment Program* (World Bank 2013)
- World Bank, *Strengthening World Bank Group Engagement on Governance and Anticorruption: Second-Year Progress Report* (World Bank, Washington DC, 2009)
<<http://siteresources.worldbank.org/INTPREMNET/Resources/GACReport2.pdf>>
Accessed 10 February 2014
- World Bank, *The World Bank Group Framework and IFC strategy for engagement in the palm oil sector* (World Bank 2011)
- World Bank, *World Development Indicators 2012* (World Bank 2012)
- Wunder S, *Payments for environmental services: some nuts and bolts* (CIFOR 2005)
- Yala C (ed.), *The Genesis of the Papua New Guinea Land Reform Program: Selected Papers from the 2005 National Land Summit* (NRI 2010)

<www.nri.org/pg/publications/Recent%20Publications/National_Land_Summit_CRC_200910.pdf> Accessed 10 February 2014

Zadek S, M Forstater, F Polacow, J Boffino, *Radical Simplicity in Designing National Climate Institutions: Lessons from the Amazon Fund* (AccountAbility 2009)
<www.accountability.org/about-us/publications/radical.html>

Zadek S, M Forstater, F Polacow, *The Amazon Fund: Radical Simplicity and Bold Ambition – Insights for building national institutions for low carbon development* (AVINA 2010) <www.zadek.net/wp-content/uploads/2010/08/Amazon-Fund_Radical-Simplicity-and-Bold-Ambition_Working-Paper_November2010.pdf>
Accessed 12 February 2014

Conference papers

CIFOR, ‘The Global Comparative REDD Study Background Paper for the First Research Design Meeting’ (Bonn, 11-13 June 2009)
<<ftp://ftp.cgiar.org/cifor/BONN/CIFOR%20REDD%20WS%20%20background%20paper.pdf>> Accessed 7 February 2014

FAO, Proceedings: FAO Advisory Committee on Paper and Wood Products Forty-eighth session, Shanghai, 6 June 2007 (FAO 2008)

Fischer G, ‘World Food and Agriculture to 2030/50: Technical paper from the Expert Meeting on How to Feed the World in 2050’ (FAO 2009)

‘Global Landscapes Forum Outcome Statement’ (Warsaw, 4 December 2013)
<www.landscapes.org/global-landscapes-forum-outcome-statement/#.UsF3_dJDt0g>
Accessed 10 February 2014

Mueller C, B Mueller, ‘The Evolution of Agriculture and Land Reform in Brazil, 1960 – 2006’ (University of Illinois 2006)

Prtichard D, ‘The Ramsar Convention on Wetlands and its indicators of effectiveness’ (International Expert Workshop on the 2010 Biodiversity Indicators and Post-2010 Indicator Development, Reading, July 2009) UN Doc UNEP/WCMC/Post-2010/0709/8d

Rurangwa E, 'Land Tenure Reform: The Case Study of Rwanda' (Conference on 'Land Divided: Land and South African Society in 2013, University of Cape Town, March 2013)

<www.landdivided2013.org.za/sites/default/files/rurangwa%20Land%20Tenure%20Reform_Rwanda%20Case.pdf> Accessed 10 February 2014

Saunders J, R Reeve, 'Monitoring Governance for Implementation of REDD-plus: Expert workshop 24-25 May 2010' (Chatham House 2010)

Solberg B, S Miina (eds.), 'Conflict Management and Public Participation in Land Management' (Proceedings of the International Conference, Joensuu, Finland, June 1996)

News and press releases

--, 'Carbon cowboys' *Sydney Morning Herald* (Sydney, 23 July 2011) <www.smh.com.au/environment/conservation/carbon-cowboys-20110722-1hssc.html> Accessed 11 February 2014

--, 'EU welcomes progress on international climate action at Warsaw conference' *European Commission* (23 November 2013) EC MEMO/13/1044

--, 'Liberia seeks trial of UK national over carbon deal' *Reuters* (13 October 2010) <<http://af.reuters.com/article/topNews/idAFJJOE69C0NC20101013?pageNumber=1&virtualBrandChannel=0>> Accessed 11 February 2014

--, 'As of June 2013, No New GRIF deposits since 2011' *Stabroek News* (9 June 2013) <www.stabroeknews.com/2013/news/stories/06/09/no-new-grif-deposits-since-2011> Accessed 14 February 2014

D'Ávila Bartels M, 'Amazon anti-logging force fails to save forest' *Deutsche Welle* (Bonn, 29 April 2013) <www.dw.de/amazon-anti-logging-force-fails-to-save-forest/a-16772293> Accessed 10 February 2014

FAO, 'Countries adopt global guidelines on tenure of land, forests, fisheries' *FAO* (Rome, 2012)

Volcovici V, 'A Slow Start for the Carbon Credit Market' *New York Times* (24 July

2011)

GINA, 'Guyana committed to full-fledged implementation of Guyana/Norway climate pact' GINA (Georgetown, 25 April 2013) <<http://gina.gov.gy/wp/?p=10538>> Accessed 10 February 2014

Lang C, 'Corruption allegations cloud the Indonesia-Norway billion dollar deal' *REDD-monitor* (London, 21 September 2010) <www.redd-monitor.org/2010/09/21/corruption-allegations-cloud-the-indonesia-norway-billion-dollar-deal> Accessed 11 February 2014

Lang C, 'NGOs to California's Governor: "Trading emissions is NOT a solution to climate change"' *REDD-Monitor* (London, 8 May 2013) <www.redd-monitor.org/2013/05/08/ngos-to-californias-governor-trading-emissions-is-not-a-solution-to-climate-change> Accessed 11 June 2013

Lang C, 'President Yudhoyono promises to dedicate the next three years to protecting Indonesia's forests' *REDD-Monitor* (London, 28 September 2011) <www.redd-monitor.org/2011/09/28/president-yudhoyono-promises-to-dedicate-the-next-three-years-to-protecting-indonesias-forests> Accessed 10 February 2014

Lodge K, 'Opinion: COP 19 delivers Warsaw Framework for REDD+ Action' *CDKN* (29 November 2013) <<http://cdkn.org/2013/11/cop19-delivers-warsaw-framework-for-redd-action>> Accessed 07 February 2014

SBS 'Climate Controversy in PNG' (14 December 2009) <<http://www.youtube.com/watch?v=Hc2YxR3fl6I>> Accessed 10 February 2014

Vidal J, 'UN's forest protection scheme at risk from organised crime, experts warn' *The Guardian* (5 October 2009)

Villar Belmonte R, 'Brazil in Search of Sustainable Ethanol' *Tierramerica* (Montevideo 2011) <www.tierramerica.info/nota.php?lang=eng&idnews=834> Accessed 13 March 2012

Witkop N, 'Brazil exports satellite rainforest monitoring' *Deutsche Welle* (10 November 2011) <www.dw.de/brazil-exports-satellite-rainforest-monitoring/a-15516250> Accessed 11 February 2014

WMO, 'Greenhouse Gas Concentrations in Atmosphere Reach New Record' *WMO Media Centre* (Geneva, 6 November 2013)

<www.wmo.int/pages/mediacentre/press_releases/pr_980_en.html>

Zwick S, 'Unpacking Warsaw, Part One: The Institutional Arrangements' *Forest Carbon Portal* (Washington DC, 26 November 2013)

<www.forestcarbonportal.com/news/unpacking-warsaw-part-one-the-institutional-arrangements> Accessed 7 February 2014

Websites

--, 'CAIT 2.0 beta: WRI's climate data explorer' (World Resource Institute 2014)

<<http://cait2.wri.org>> Accessed on 11 November 2013

--, 'Banking Environment Initiative' (University of Cambridge)

<www.cpsl.cam.ac.uk/bei> Accessed 10 February 2014

--, 'Bolsa Forest Program' (FAS) <<http://fas-amazonas.org/pbf/?lang=en>> Accessed 12 February 2014

--, 'Climate Funds Update on Forest Investment Program' (ODI 2013)

<www.climatefundsupdate.org/listing/forest-investment-program> Accessed 2 December 2013

--, 'Collaboratory on Soft Commodities: A Partnership with Consumer Goods Forum companies' (University of Cambridge) <www.cpsl.cam.ac.uk/Business-Platforms/Banking-Environment-Initiative.aspx?#fragment> Accessed 10 February 2014

--, 'Corruption Perceptions Index: Corruption around the world in 2013' (Transparency International 2013) <<http://cpi.transparency.org/cpi2013>> Accessed 8 February 2014

--, 'Country risk September 2010: Full results' (ECR 2010)

<www.euromoney.com/Article/2675660/Country-risk-September-2010-Full-results.html> Accessed 8 February 2014

--, 'Definitions' (CBD) <www.cbd.int/forest/definitions.shtml> Accessed 8 February 2014

--, 'Euromoney Country Risk Methodology' Euromoney Institutional Investors (2014)

- <www.euromoneycountryrisk.com/Methodology.aspx> Accessed 8 February 2014
- , 'Forest Stewardship Council, Who We Are: Global, multi-stakeholder, membership organization' (FSC) <<https://ic.fsc.org/about-us.1.htm>> Accessed 9 February 2014
- , 'Global Integrity Report: 2010 Integrity Indicators Data' (Global Integrity 2011) <<https://www.globalintegrity.org/downloads>> Accessed 8 February 2014
- , 'International Country Risk Guide Methodology' (PRS Group 2011) <www.prsgroup.com/PDFS/icrgmethodology.pdf> Accessed 8 February 2014
- , 'International Country Risk Guide, January 2011' (PRS Group 2011) <http://www.prsgroup.com/ICRG_TableDef.aspx> Accessed 8 February 2014
- , 'Legal Empowerment Initiative and the Commission on Legal Empowerment of the Poor' (UNDP 2013) <www.undp.org/content/undp/en/home/ourwork/democraticgovernance/focus_areas/focus_justice_law/legal_empowerment.html> Accessed 10 February 2014
- , 'Mitigation of Climate Change in Agriculture (MICCA) Programme' (FAO 2010) <www.fao.org/climatechange/micca/75369/en> Accessed 10 February 2014
- , 'Monitoring on Moratorium Working Group of the Indonesian REDD+ Task Force' (Government of Indonesia 2013) <www.satgasreddplus.org/en/redd-task-force/redd-task-force-profile/monitoring-moratorium> Accessed 13 February 2014
- , 'Nature and Biodiversity (European Commission 2014) <http://ec.europa.eu/environment/nature/index_en.htm> Accessed 12 February 2014
- , 'Our Global Programmes' (UNDP 2013) <www.undp.org/content/undp/en/home/ourwork/democraticgovernance/global_programmes.html> Accessed 10 February 2014
- , 'Project Leaf' (Interpol, 2012) <www.interpol.int/es/Crime-areas/Environmental-crime/Projects/Project-Leaf> Accessed 10 February 2014
- , 'Rainforest Alliance coffee certification scheme' (Rainforest Alliance) <www.rainforest-alliance.org/agriculture/crops/coffee> Accessed 12 February 2014
- , 'Ratifications of C169' (ILO 2014) <www.ilo.org/dyn/normlex/en/f?p=NORMLEXPUB:11300:0::NO:11300:P11300_IN>

- STRUMENT_ID:312314:NO> Accessed 11 February 2014
- , 'REDD+ Database' <<http://reddplusdatabase.org>> Accessed 12 December 2013
- , 'South-South Knowledge Exchange on National Fund Design' (UN-REDD 2014)
<www.unredd.net/index.php?option=com_docman&task=cat_view&gid=3285&Itemid=53> Accessed 12 February 2014
- , 'Tropical Forest Alliance 2020' (Meridian Institute 2014)
<www.tfa2020.com/index.php/about-tfa2020> Accessed 14 February 2014
- , 'VPA Countries' (European Forest Institute 2009) <www.euflegt.efi.int/vpa-countries> Accessed 10 February 2014
- , 'Who we are' (PEFC) <www.pefc.org/about-pefc/who-we-are> Accessed 9 February 2014
- , 'World Development Indicators 2013' (World Bank 2013)
<<http://wdi.worldbank.org/table/5.9>> Accessed 8 February 2014
- , 'World Heritage List' (UNESCO) <<http://whc.unesco.org/en/list>> Accessed 11 February 2014
- , 'Worldwide Governance Indicators' (World Bank 2013)
<<http://data.worldbank.org/data-catalog/worldwide-governance-indicators>> Accessed 8 February 2014
- , 'Forest Law Enforcement and Governance' (World Bank 2013)
<<http://go.worldbank.org/FMKUFABJ80>> Accessed 10 February 2014
- , 'Regional Forest Law Enforcement and Governance' (FLEG) Initiatives (World Bank)
<<http://go.worldbank.org/32M8CUBPN0>> Accessed 12 July 2013
- , 'Deforestation' (Consumer Goods Forum 2014)
<<http://sustainability.mycgforum.com/deforestation.html>> Accessed 14 February 2014.
- Chang J, 'Meat Production and Consumption Continue to Grow' (WorldWatch Institute 2011) <<http://vitalsigns.worldwatch.org/vs-trend/meat-production-and-consumption-continue-grow-0>> Accessed 10 February 2014

Powell J, 'The World Bank Policy Scorecard: The New Conditionality?' (Bretton Woods Project 2004) <www.brettonwoodsproject.org/doc/knowledge/cpia.PDF> Accessed 21 November 2013