



UNITED NATIONS
UNIVERSITY

UNU-IAS

Institute of Advanced Studies



UNU-IAS Policy Report

Governing the Forests: An Institutional Analysis of REDD+ and Community Forest Management in Asia



Associated Institution of



UNITED NATIONS
UNIVERSITY

The International Tropical Timber Organization (ITTO) is an intergovernmental organization promoting the conservation and sustainable management, use and trade of tropical forest resources. Its 65 members (as of January 2013) represent about 80% of the world's tropical forest and 90% of the global tropical timber trade. ITTO develops internationally agreed policy documents to promote sustainable forest management and forest conservation and assists tropical countries to adapt such policies to local circumstances and to implement them in the field through projects. In addition, ITTO collects, analyses and disseminates data on the production and trade of tropical timber and funds projects and other actions aimed at developing industries at both community and industrial scales. All projects are funded by voluntary contributions, mostly from consumer member countries. Since it became operational in 1987, ITTO has funded more than 750 projects, pre-projects and activities valued at more than US\$300 million. The Major donors are the governments of Japan, Switzerland and the United States. www.itto.int

The United Nations University Institute of Advanced Studies (UNU-IAS) is a global think tank whose mission is "to advance knowledge and promote learning for policy-making to meet the challenges of sustainable development". UNU-IAS undertakes research and postgraduate education to identify and address strategic issues of concern for all humankind, for governments, decision-makers, and particularly, for developing countries.

Established in 1996, the Institute convenes expertise from disciplines such as economics, law, social and natural sciences to better understand and contribute creative solutions to pressing global concerns, with research and programmatic activities related to current debates on sustainable development:

- Biodiplomacy initiative
- Satoyama Initiative
- Sustainable Development Governance
- Education for Sustainable Development
- Marine Governance
- Traditional Knowledge Initiative
- Science and Technology for Sustainable Societies
- Sustainable Urban Futures

UNU-IAS based in Yokohama, Japan, has two International Operating Units: the Operating Unit Ishikawa/Kanazawa (OUIK) in Japan, and the Traditional Knowledge Initiative (TKI) in Australia.

UNU-IAS Policy Report

Governing the Forests: An Institutional Analysis of REDD+ and Community Forest Management in Asia

Jose Puppim de Oliveira, UNU-IAS, Japan

Tim Cadman, Griffith University, Australia

Hwan Ok Ma, The International Tropical Timber Organization (ITTO), Japan

Tek Maraseni, The University of Southern Queensland, Australia

Anar Koli, University of Tsukuba, Japan

Yogesh D. Jadhav, Barli Development Institute for Rural Women, India

Dede Prabowo, United Nations University Institute for Sustainability and Peace (UNU-ISP), Japan

February 2013

Published by the International Tropical Timber Organization (ITTO) and the United Nations University Institute of Advanced Studies (UNU-IAS), Yokohama, Japan.



**UNITED NATIONS
UNIVERSITY**

UNU-IAS

Institute of Advanced Studies

Copyright © United Nations University and International Tropical Timber Organization, 2013

The views expressed in this report are those of the authors and do not necessarily reflect the views of their organizations. This paper is a result of the follow-up discussions among a group of participants in the “Capacity Building Workshop on Carbon Governance in Asia: Bridging Scales and Disciplines” held in Yokohama, Japan on 1–3 November 2010. We thank the support of the event organizers: Asia-Pacific Network for Global Change Research (APN), The Earth System Governance Project (ESG), Global Carbon Project (GCP) and the United Nations University Institute of Advanced Studies (UNU-IAS). We also thank the contribution of Tek Jung Mahat to the discussions.

United Nations University Institute of Advanced Studies
6F, International Organizations Center
Pacifico-Yokohama 1-1-1 Minato Mirai
Nishi-ku, Yokohama, 220-8502 Japan
Tel: +81-45-221-2300 Fax: +81-45-221-2302
Email: unuias@ias.unu.edu
URL: <http://www.ias.unu.edu/>

International Tropical Timber Organization
International Organizations Center, 5th Floor
Pacifico-Yokohama 1-1-1, Minato-Mirai
Nishi-ku, Yokohama, 220-0012 Japan
Tel: +81-45-223-1110 Fax: +81-45-223-1111
Email: itto@itto.int
URL: <http://www.itto.int/>

ISBN 978-92-808-4545-7 (pb)
ISBN 978-92-808-4542-6 (eb)
UNU-IAS/2013/No.9 (UNU-IAS and ITTO joint publication)

Cover Photo Credit: ITTO
Design and Layout: Xpress Print Pte Ltd
Printed by Xpress Print Pte Ltd in Singapore



Printed on Forest Stewardship Council (FSC) certified paper using soy-based ink

TABLE OF CONTENTS

Foreword	6
Executive Summary	7
1. Introduction	8
2. REDD+: History, Description, Institutional Architecture and Governance	9
2.1 History.....	9
2.2 Description	9
2.3 Institutional Architecture.....	12
2.4 Monitoring Reporting and Verification.....	14
3. Linking REDD+, Community Forest Management and Common-Pool Resources	17
3.1 The Emergence of Payments for Ecosystem Services and the Contribution of Community Forest Management to Solving Common-Pool Resource Problems...	17
3.2 Governance Challenges Confronting Common-Pool Resources, Payments for Ecosystem Services and Community Forest Management	18
4. Cases of Community Forest Management and REDD+ Governance in Asia	21
4.1 Bangladeshi Case: Emerging Role of Community Forest Management in Reducing Carbon Emissions in Bangladesh	21
4.2 Indonesian Case: Local Governance Lessons from the Implementation of a Public–Private Partnership REDD+ in Meru Betiri National Park, Java.....	28
4.3 Indian Case: Linking Participatory Carbon Governance and Rural Energy Systems: Lessons from Indigenous Carbon Management Practices in Indian Tropical Forests	34
5. Lessons and Recommendations	41
5.1 General Lessons from the Cases	41
5.2 The Monitoring, Reporting and Verification of Governance is as Important as the Governance of Monitoring, Reporting and Verification.....	45
References	47

Foreword

The International Tropical Timber Organization (ITTO), the United Nations University Institute of Advanced Studies (UNU-IAS) and Griffith University's Institute for Ethics, Governance and Law (IEGL) have been actively involved in projects on governance of the global environment for several years. ITTO has promoted conservation and sustainable management of tropical forests to address climate change mitigation and adaptation in both policy development and in the field, and has been working on different aspects of REDD+ and other similar initiatives. With its mission to advance scientific knowledge for policy-making for sustainability transition, UNU-IAS has published several studies on the social, economic and environmental dimensions of climate change and biodiversity conservation, and conducts studies linking these issues with the Convention on Biological Diversity and the United Nations Framework Convention on Climate Change. IEGL has carried out several studies on forest governance and other issues related to global environmental governance.

REDD+ has become an important component in the discussions on climate change and forest governance, but there is further need to understand the linkages with local governance and the challenges for its implementation. We hope this joint report will serve as a useful reference for policymakers, professionals and practitioners as they work to promote REDD+ in ways that tackle climate change and biodiversity loss but also respect concerns and listen to the voice of local stakeholders.

Emmanuel Ze Meka
Executive Director,
International Tropical Timber Organization

Govindan Parayil
Director, United Nations University Institute of Advanced Studies
and Vice-Rector,
United Nations University

Charles Sampford
Director, Institute for Ethics, Governance and Law
Griffith University

Executive Summary

Global environmental policy-making involves many different interests, both governmental and non-governmental, as well as the business and science communities. It is necessary to ensure that there are strong links between these actors and the global, national and local policy-making levels in which they are involved. Governance has become the principal concept for understanding the mechanisms for steering or coordinating modern socio-political interactions around the environment, and its role is central to negotiating successful policies, programmes and related projects on the ground. Forests provide one of the best spaces available to study the emergence of new modes of governance that have arisen in response to globalization. This is because it is in the forest sector specifically that some of the most extensive and innovative experiments in “new” governance – of which REDD+ is one of the most interesting – exist.

The United Nations Framework Convention on Climate Change negotiation on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (now referred to as REDD+) is an interesting example of this type of “multi-level” governance. REDD+ addresses the problem of climate change through a variety of institutional structures and processes aimed at encouraging the sustainable management of tropical forests, and thereby reducing greenhouse gas emissions. Forest users are provided with a financial incentive to reduce deforestation and forest degradation, and REDD+ can be interpreted as an example of payments for ecosystem services (PES). At the national level, countries have their own systems of forest governance, including community forest management (CFM). Forests are often jointly managed by multiple interests, and can be referred to as common-pool resources. Communities that rely on these forests also have a range of rights and benefit-sharing arrangements regarding these resources.

Given this complexity of relationships, it is important to understand how the governance of REDD+ itself both impacts on, and is affected by, local circumstances. Concerns about governance have led to calls for REDD+ to be rendered more effective through improved design. Of particular concern is the need for effective monitoring, reporting and verification (MRV). In the context of REDD+, MRV is normally seen as relating largely to carbon accounting and reduction of greenhouse gas emissions; however, in the context of forest governance, it also concerns the participation of interested parties in decisions regarding the sharing of benefits arising from PES, and overall forest management. This policy report explores three examples of CFM in Asia, in Bangladesh, India and Indonesia. Each has different systems of forest governance, with varying degrees of community management and success. Local systems will be a key to the successful outcome of any global efforts for carbon payment schemes in developing countries. The challenges confronting these case studies, and the implications for REDD+ governance, are discussed in the conclusion.

Keywords: Global environmental governance, climate change, REDD+, Asia, payments for ecosystem services (PES), monitoring reporting and verification (MRV), community forest management.

1. Introduction

Central to this study of Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (now referred to as REDD+) and community forest management (CFM)¹ is the analysis of the key factors for good governance of common-pool resources (CPRs) and lessons from existing experiences in the field. CPRs are resources, such as forests, that can have their values or benefits affected by overuse. They are often managed as a common property of a certain group, as in the case of forests managed by local communities.

Good governance of CPRs is based largely on participation in decision-making and sharing of benefits, mechanisms for conflict resolution and the right to organize (Ostrom 1990: 90). While some form of central control or outside influence, such as REDD+, can certainly help to improve the local governance of CPRs, the design principles underpinning institutional governance are of paramount importance (Ostrom 1990: 11–14). Members outside the community with pre-existing interests operate as important decision-makers within a system seeking to solve a given problem (in this case, high levels of human-induced greenhouse gas emissions), and they may have interests in and understanding of local governance and the management of the forest that is different from that of local communities.

In terms of international policy, such external actors are often related to a broader global policy regime (in the case of REDD+, mostly related to the United Nations Framework Convention on Climate Change – UNFCCC). However, members of such mechanisms are functioning within a system based around their own perspective over resource management, and are therefore often driven by the utilitarian desire to maximize net financial benefits (Young, 2005). This global–local interaction can disrupt local systems of forest management, and lead to or reinforce perverse outcomes, such as “the tragedy of the commons” (as described by Hardin, 1968). This can consequently lead to outcomes that are less desirable for everyone than other possible alternatives, or skew the benefits or costs against certain groups. However, global policy regimes can help to make positive disruptions to mal-functioning local regimes, to improve governance and management of the resources. Thus, there is a potential to make global regimes, such as REDD+, have a positive influence on improving or reinforcing good governance and management of local resources. This paper tries to understand the main challenges and opportunities for making REDD+ a force for improving local governance and CFM. We will analyse the lessons from cases of CFM in three countries in Asia (India, Indonesia and Bangladesh), to understand the main factors we should consider when we implement REDD+ at the local level.

¹ The term community forest management (CFM) or community-based forest management considerably varies both in academic literature and in the practice jargon. In this study we use CFM as an umbrella term that could include all variations of the term, and expresses generally the involvement of the forest community in forest management, either in conservation processes, social forestry processes or (directly) in forest governance processes.

2. REDD+: History, Description, Institutional Architecture and Governance

2.1 History

Attempts to combat deforestation have had a difficult history in intergovernmental environmental negotiations. The 1992 Rio “Earth” Summit failed to deliver the same degree of cooperation on forests as it did with climate change, biological diversity and desertification (where a series of formal conventions resulted); the much-anticipated Legally Binding Instrument (LBI) on forests did not eventuate (DESA, 2004). The original concept of reducing emissions from deforestation (RED) has been accredited to Columbia University MBA graduate and Kevin Conrad. By the time the Kyoto Protocol (KP) was formally ratified in 2004, deforestation had effectively dropped off the agenda. Conrad, founder of the Coalition of Rainforest Nations, representing the main rainforest regions, successfully lobbied the UNFCCC to consider his proposal as a mechanism for re-integrating action on deforestation back into the climate change talks (Kwon, 2006). When forest degradation was identified as a further aspect of forest-based emissions that could be addressed by the mechanism, the acronym was expanded to REDD. It is now formally referred to as REDD+ in the wake of the UNFCCC Conference of Parties (COP) 15 in Copenhagen, to reflect the initiative’s growing emphasis on conserving and enhancing forests on the basis of their value for carbon sequestration, rather than simply reducing emissions (Parker et al., 2009).

2.2 Description

REDD+ is best understood as an initiative to reduce greenhouse gas (GHG) emissions associated with forest clearing, which allows “avoided deforestation” to be included in market-based carbon trading mechanisms. It is effectively a payment in exchange for actively preserving existing forests (Carbon Positive, 2010). It is linked to the KP and the KP-related Clean Development Mechanism (CDM), because it offers developed countries a means of meeting their emissions targets through reducing GHG emissions and increasing GHG sinks (i.e. forests) in developing countries (CIFOR, 2010).

In Asia alone, except in China, about 33 million hectares of forest were lost during the period 1990–2010 (FAO, 2010). In Malaysia and in several parts of Indonesia, the major lowland forests have been massively converted in the last 20 years into palm oil plantations and other agricultural activities. The increase in paper consumption is also leading to deforestation in already-degraded Indonesian forests, for the planting of fast-growing pulpwood species (Karsenty, 2009). Although deforestation shows some signs of decreasing in several countries, it is continuing at a high rate in others. Around 13 million hectares of forest were converted to other uses or lost through natural causes each year in the past decade, compared to 16 million hectares per year in the 1990s. Both Brazil and Indonesia, which had the highest net loss of forest in the 1990s, have significantly reduced their rate of loss, while in Australia, for example, severe drought and forest fires have exacerbated the loss of forest since 2000. Afforestation and natural expansion of forests in some countries and regions have significantly reduced the net loss of forest area at the global level. The net change in forest area in the period 2000–2010 is estimated at –5.2 million hectares per year (an area about the size of Costa Rica), down from –8.3 million hectares per year in the period 1990–2000 (FAO, 2010).

Deforestation and forest degradation account for nearly 20 per cent of global GHG emissions – more than the entire global transportation sector, and second only to the energy sector (UN-REDD, 2010). Forest degradation includes degradation from logging, fuelwood harvest and fire. It represents at least 20 per cent of forest carbon emissions, and acts as a catalyst for further emissions from deforestation. For example, logging increases the likelihood of additional emissions from degradation and subsequent deforestation (e.g. through increased fire due to increased dead and dried wood, increased wind throw due to more open space, and increased access to encroachment by ranchers) (Griscom et al., 2009). Forests are also converted to non-forest uses to meet the growing demand for beef, soy used to feed cattle, and palm oil for agro-fuels. Economic instruments are needed to modify collective choices, but it is still necessary to examine the validity of current development patterns (Karsenty, 2009). Developed countries committed USD 30 billion for the period 2010–2012, with balanced allocation between adaptation and mitigation in the Copenhagen Accord. Part of this fund goes to REDD+ (Bleaney et al., 2010). The United Nations Collaborative Programme on REDD (UN-REDD) (2010b) predicted that financial flows for GHG reductions from REDD+ could reach up to USD 30 billion a year. This significant North–South flow of funds could reward a meaningful reduction of carbon emissions, and could also support new, pro-poor development, help conserve biodiversity and secure vital ecosystem services. Through the effective implementation of REDD+, there could be 50 per cent reduction in global deforestation by 2020, and a reduction in net deforestation to zero by 2030 (Angelsen, 2009).

It is widely recognized that, without REDD+, the 2°C (or 450 ppm of CO₂) climate stabilization goal is unlikely to be reached (Angelsen, 2009). REDD+ has the potential to address a source of GHG emissions larger than the entire global transportation sector (Angelsen, 2009). Towards 2030, forest-related mitigation could contribute to more than a third of all reductions in CO₂ emissions. The Intergovernmental Panel on Climate Change (IPCC) estimates that, to reach total forest mitigation potential, 35 per cent can be fulfilled through reduced emissions from deforestation and degradation, 35 per cent through improved management (including the restoration of degraded forests), and 30 per cent through afforestation and reforestation activities (IUCN, 2010). REDD+ includes carbon accounting from the following activities, according to the COP 16 (2010) decision (1/CP.16) adopted under the Cancun Agreements: reducing emissions from deforestation, reducing emissions from forest degradation, conservation of forest carbon stocks, sustainable management of forests, and enhancement of forest carbon stocks (these may be afforestation, reforestation and restoration activities on deforested and degraded lands) (Bleaney et al., 2010). Carbon accounting refers to measuring and analysing GHG emissions and removals from all human-induced activities. It includes estimation of baseline, additionality, buffers and discounts; and monitoring and verification (Griscom et al., 2009).

Unfortunately, forest degradation is hard to measure and there are no agreed criteria or assessment methodologies. Growing stock per hectare could give an indication about the state of the forest health – including post harvesting or other human interventions – and is a reasonable proxy for carbon stocks, but few countries have sufficient data to generate reliable trends over time. Also, planted forests are not the same as natural forests. While forest area is increasing due to plantation programmes in several countries, indigenous forests continue to be lost or degraded in many countries. Figures from the

2010 Forest Resources Assessment (FRA) highlight the need for multi-purpose forest monitoring and assessment, to strengthen national capacities to further implement forest policies aimed at achieving sustainable management and reducing carbon emissions from deforestation and forest degradation in developing countries in the region (Griscom et al., 2009). This can be achieved by scaling up the implementation of recent advances in remote sensing imagery analysis, expanding field measurements, and improving the consistency of accounting methods. New methods for detecting major forms of degradation (selective logging and partial canopy fires) using free satellite imagery also allow for affordable and credible measurement and monitoring of emissions from forest degradation. Carbon-accounting programmes should be designed to accommodate some distinct degradation accounting and verification recommendations associated with (1) mapping and monitoring degradation activities using remote sensing, (2) plot measurements, (3) modelling business-as-usual degradation processes, (4) assessment of leakage and permanence, and (5) forest certification. Affordable, remotely-sensed monitoring of the reduced emissions from improved forest management, as opposed to conventional logging, remains a challenge. Existing forest certification systems employing ground-based auditing of specific logging practices offer a solution to this problem. Further research is required, to develop affordable remote sensing methods that offer the resolution necessary to detect reduced emissions from improved forest management. No approved forest carbon methodology is yet available to verify reduced emissions associated with reduced impact logging outside of the United States (US) (Griscom et al., 2009).

The choice of the reference period used to measure the reduction in deforestation is one of the thorniest issues regarding REDD+ (Griscom et al., 2009). Should the deforestation level during the commitment period (probably 2013–2017) be compared with a past period, or with a projected business-as-usual scenario? The method chosen will have different implications depending on the country. Countries that have seen high deforestation rates in the recent past and that have little forest cover will come out on top if a past period is taken into consideration. Conversely, countries whose deforestation rates were low in the past but are expected to rise (due to investment in road infrastructure and the extension of agricultural areas) are in favour of a business-as-usual scenario that takes into consideration their development needs. In the immense Democratic Republic of the Congo, for example, the annual deforestation rate is 0.21 per cent, but there is no doubt that, if the political situation stabilizes, road infrastructure repairs and the return of private investment will result in a rise in deforestation, at least in the short term. The Congo Basin countries currently have relatively low deforestation rates, not necessarily because of any “good governance”, but because of the poor state of their infrastructure and the limited appeal of this region for major agricultural investments. Guyana presented a baseline scenario in August 2009 that anticipated the conversion of 90 per cent of its forests into industrial crops over the next 25 years; this was in order to maximize its chances of being paid for any deforestation rate below this figure. Another potential perverse effect is that a form of environmental “greenmail” may become widespread (“pay me or I will let my forests be destroyed”) – quite the opposite of the government responsibility required on such a critical issue for the public good (Griscom et al., 2009). But the Subsidiary Body for Scientific and Technological Advice (SBSTA) (in COP15) made some progress, in that REDD accounting will be based on historic forest reference emissions levels (REL) and/or forest reference levels (RL), adjusted for national circumstances. Adjustment means that countries with historically

low levels of deforestation can add an estimated percentage increase to historical baselines to reflect changes anticipated in the absence of REDD+. Maintaining reductions below the adjusted level would qualify for payments, making REDD+ attractive to a wider range of countries. It also means that some countries could receive financial support for increases above their current emissions levels (Bleaney et al., 2010).

There are three main approaches for the geographical scale of REDD+ accounting and international crediting: the subnational, the national, or a combination of the two in a nested approach. A national approach accounts for domestic leakage, and stimulates countries to make broad-based (and sometimes cheap) policy reforms that can lead to deeper and more permanent reductions in emissions. The subnational project-specific approaches are attractive to private investors because outputs are more tangible, and such approaches can work in countries that are not institutionally ready to implement a national approach. A nested approach allows countries to start with a subnational approach and scale up to a national approach over time, or to simultaneously account and receive credits at both the subnational and national levels. The nested approach, therefore, is more flexible and allows more countries to take part in REDD+ (CIFOR, 2010). REDD+ units could be issued *ex post*, after the environmental benefits have accrued, and been measured and verified (*sectoral baseline and credit*). Alternatively, REDD units could be issued *ex ante*, based on an agreed reference level, wherein a country could sell REDD units to raise funds or allocate units to subnational actors. At the end of the crediting period, the country would be liable to match emissions from the forest sector with REDD units (*sectoral cap and trade*) (Angelsen, 2009).

Unlike the previous RED and REDD, in REDD+, countries that have high deforestation rates and countries that are already effectively protecting their forests can both benefit. The “-plus” in REDD+ widens the scope of the mechanism to include conservation and enhancement of forest carbon stocks, as well as the sustainable management of forests (SMF). This means that activities such as improved management of protected areas, forest plantations and restoration, and reduced impact logging may yet be elements of REDD+ strategies. The definition of SMF, and specifically how it will be distinguished from “sustainable forest management” (SFM) is not yet clear (Bleaney et al., 2010).

2.3 Institutional Architecture

REDD+ addresses the problem of climate change through a range of state and non-state market-based mechanisms and non-market initiatives, to encourage sustainable management of tropical forests, and thereby reduce GHG emissions. There are a number of mechanisms associated with REDD+. The UNFCCC, which is responsible for the intergovernmental negotiations regarding the content and format of REDD+; UN-REDD – which is supported by the United Nations Development Programme (UNDP), the Food and Agriculture Organization of the United Nations (FAO) and the United Nations Environment Programme (UNEP) – and manages the technical and financial components of the initiative at the international and national level; and The Forest Carbon Partnership Facility (FCPF), which – via the World Bank – provides funding aimed at maintaining standing forests by encouraging biodiversity conservation and sustainable use through a range of country-level projects. National governments and non-governmental organizations (NGOs), including The Nature Conservancy, provide funds for the initiative (UN-REDD, 2010).

The Forest Investment Program (FIP) is part of the World Bank's Strategic Climate Fund (SCF). FIP provides funds to specific sectors and projects to pilot new activities and build capacity in existing activities aimed at tackling climate change. It supports developing countries in their efforts to prepare for REDD+-related implementation in advance of the final outcomes of the UNFCCC negotiations. Funding of more than USD 500 million has been offered by the developed country donors including Australia, Denmark, Japan, Norway, the United Kingdom (UK) and the US (Climate Funds Update, 2010).

The Global Environmental Facility (GEF) was created by the World Bank in 1991 with a mission to provide funding and supervision for environmental and sustainable development related projects at the global level. It is a partnership arrangement that comprises 178 countries, NGOs, the private sector and international institutions (Climate Lab, 2010). Climate change is one of the six focal areas of the GEF (Climate Funds Update, 2010). As a consequence of the 2007 Action Plan, which arose from the Bali climate change negotiations (COP 13), the GEF Trust Fund developed a funding programme as part of its fifth four-yearly funding cycle (GEF-5) for REDD and associated SFM and forest conservation activities (IISD, 2009).

The REDD+ Partnership was established in June 2010 as an "action track" to supplement UNFCCC negotiations. Although it is a country-led initiative of 58 member-states (the actual Partners) it does include some non-state representation from civil society, indigenous peoples' organizations (IPOs) and the private sector. Secretariat services are provided by UN-REDD and FCPF. Its aim is to "fast-start" REDD+ projects through the provision of funds to developing countries "committing to developing strategies, build capabilities and initiate actions to reduce deforestation". Developed countries have provided USD 4 billion for the funding period 2010–2012 (Forest Carbon Portal, 2010). Associated documentation makes strong claims about commitments to transparency of financing, inclusiveness of stakeholder representation, information sharing and lesson learning (Forest Carbon Portal, 2010).

The relationship between REDD+ and the KP's CDM is still unclear. The decision under the *Ad Hoc* Working Group on the KP (AWG-KP) states that activities additional to reforestation and afforestation will be considered eligible if agreed upon by future decisions. Some countries have been pushing for the expansion of CDM Land Use, Land-Use Change and Forestry (LULUCF) eligibility in order to improve access to the CDM. If REDD+ is linked with CDM LULUCF, its future depends on the future of CDM, which is uncertain. Others have suggested dealing with additional emissions sources, such as REDD+, under separate systems, given that integrating REDD+ into carbon markets could have uncertain impacts on how such markets perform (Forest Carbon Portal, 2010).

Afforestation and reforestation have been emphasized in the CDM (Bass et al., 2000), but these activities under CDM did not have a large relevance as CDM projects. Thus, as REDD+ is emerging as a possible voluntary and regulatory market instrument to reward reforestation, a new role for CFM – in future carbon governance – is also emerging.

2.4 Monitoring Reporting and Verification

The opportunity presented by REDD+ is unprecedented, but the risks are considerable. Ensuring that REDD+ fulfils expectations and becomes a part of the solution to climate change, and not part of the problem, will require a monitoring system on which we can rely – a system that is robust, broad-based, transparent, integrated, inclusive, truly independent and capable of addressing governance realities on the ground (Global Witness, 2009). Affordable and replicable methods for monitoring, reporting and verification (MRV) are very much necessary. Otherwise, REDD+ will be like another CDM, where India and China share over 70 per cent of the total CDM projects, with rules that are too complex for many low-income countries to benefit from them (Bleaney et al., 2010). Monitoring of forests remaining as forests (i.e. of degradation, conservation and SMF) is more challenging than monitoring of deforestation. For some activities, the climate benefit is small relative to the cost of monitoring. The framework for accounting for the category “forests remaining as forests” is already outlined in IPCC 1996 Guidelines and 2003 Good Practice Guidance (GPG); it estimates net emissions or removals as the product of the area affected and the net change in C density. However, the existing methodologies do not cover all major aspects of C losses and gains associated with REDD+. Overall, emission factors for activities associated with reducing emissions from degradation generally result in low climate benefits, are difficult to monitor in most cases, require high levels of local capacity, and currently have high monitoring costs. The application of new satellite techniques could help to reduce these costs. Future review of IPCC GPG methodologies will be needed to ensure applicability in response to a future REDD+ policy framework, including further development of internationally acceptable methods, guidance and standards (Angelsen et al., 2009).

As there was no final and binding REDD+ agreement, nothing in the COP15 draft text can be described as certain. However, negotiators at COP15 did reach consensus on a number of key issues, which are extremely likely to be part of a REDD+ agreement when it is reached. There is still ample opportunity for forest-sector stakeholders to influence REDD+ negotiations, to ensure progressive and equitable outcomes benefiting both people and forests (RECOFT, 2010). Unless significant attention is paid to such matters, REDD+ will simply be another contribution to an ongoing narrative of marginalization of vulnerable stakeholders by development and conservation projects (Thompson et al., 2011). This has resulted in the recognition that more research is needed that explores the governance quality of REDD+ (Corbera and Schroeder, 2011; Thompson et al., 2011). Greater attention needs to be paid to evaluating the success of climate change policies on the basis of the social processes that drive decision-making. (Barnett, 2010).

The COP 16 also called for developing-country Parties to undertake the following activities:

- (a) Design a national strategy or action plan,
- (b) Establish a national forest reference emission level and/or forest reference, level or, if appropriate, as an interim measure, subnational forest reference emission levels and/or forest reference levels,
- (c) Design a robust and transparent national forest monitoring system for the monitoring and reporting of activities,

- (d) Design a system for providing information on how the agreed social and environmental safeguards are being addressed and respected.

Developed countries were urged to provide financial and technical support to developing countries, to help them to engage key stakeholders (including communities and indigenous peoples); prepare national strategies, policies and measures to implement REDD+; and develop national forest reference emission levels, national forest monitoring systems and a system for providing information on how REDD+ social and environmental safeguards are being addressed and respected (IISD, 2009).

REDD+ discussions at the COP 17 in Durban in December 2011 moved by focusing on national forest monitoring systems and measuring, reporting and verifying of emissions by sources and removals by sinks, social and environmental safeguards, reference levels and financing.

With regard to social and environmental safeguards for REDD+, the COP 17 Decision stipulated that countries with forests should report on how the safeguards referred to in Appendix I to decision 1/CP.16 are being addressed and respected throughout the implementation of the activities as follows:

- Consistency with the objectives of national forest programmes and relevant international conventions and agreements,
- Transparent and effective national forest governance structures,
- 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,
- Full and effective participation of relevant stakeholders, in particular indigenous peoples and local communities,
- Consistency with the conservation of natural forests and biological diversity,
- Actions to address the risks of reversals,
- Actions to reduce displacement of emissions.

Following the above guidance on safeguards for REDD+, several initiatives have emerged related to the integration of REDD+ safeguards, and due attention has been given to the importance of establishing a credible system of social–environmental safeguards to ensure the full and effective participation of indigenous people, local communities and the conservation of forest biodiversity. These include the UN-REDD Programme Social and Environmental Principles and Criteria (SEPC), The World Bank FCPF Readiness Fund's Common Approach to Environmental and Social Safeguards, and the REDD+ Social & Environmental Safeguards (REDD+ SES) initiative.

Key features of those principles are the maintenance or enhancement of the full and effective participation of indigenous people, and local communities and biodiversity conservation. For instance, the UN-REDD SEPC adopted in March 2012 provide a guiding framework for addressing environmental and social issues in UN-REDD national programmes through the following principles:

- 1 – Apply norms of democratic governance, as reflected in national commitments and multilateral agreements,
- 2 – Respect and protect stakeholder rights in accordance with international obligations,
- 3 – Promote sustainable livelihoods and poverty reduction,
- 4 – Contribute to low-carbon, climate-resilient sustainable development policy, consistent with national development strategies, national forest programmes, and commitments under international conventions and agreements,
- 5 – Protect natural forest from degradation and/or conversion,
- 6 – Maintain and enhance multiple functions of forests, including conservation of biodiversity and provision of ecosystem services,
- 7 – Avoid or minimize adverse impacts on non-forest-ecosystem services and biodiversity.

There is increased recognition of the rights of indigenous people and local communities over forests, and the need to safeguard those rights. Thus, it would be worthwhile to be aware that, in addition to the establishment of a robust national forest resource monitoring system, result-based REDD+ actions require that safeguards measures are in place, with a safeguard information system to monitor the maintenance or enhancement of the long-term social-environmental sustainability of indigenous people and local communities and biodiversity.

Thus, MRV is about much more than simply accounting for carbon – it also involves providing safeguards to ensure that roles and responsibilities of all involved in, or affected by, REDD+ are clearly defined, and that rights are protected. The success of an international REDD+ mechanism will depend on the existence of governance arrangements that are able to deliver emission reductions at scale. To ensure transparency and inclusiveness, decision-making processes should include a system that engages representatives of forest-dependent people, civil society organizations, and the private sector (Streck et al., 2010). Developing-country concerns are less about gaps in institutional or technical capacity than about gaps in legitimacy and credibility (governance). As national REDD+ agencies become institutionally solid and gradually incorporate appropriate governance principles (such as transparency, quality control assurance, and fiduciary accountability), they may increasingly take on functions related to the management and deployment of international funding, internally contracting the certification of their operations, results and reporting procedures. Eventually, the role of international entities could be reduced to the technical review of the established national arrangements, which, in contrast to the concept of verification and certification, does not entail the checking of the accuracy of the data reported, but only confirming that the process through which such data are produced follows the minimum requirements (Streck et al., 2010).

3. Linking REDD+, Community Forest Management and Common-Pool Resources

3.1 The Emergence of Payments for Ecosystem Services and the Contribution of Community Forest Management to Solving Common-Pool Resource Problems

Payments for ecosystem services (PES) have emerged in recent years as part of a conservation paradigm, in many cases linked to market-driven conservation mechanisms. The core idea of this approach is that external environmental service beneficiaries make direct, contractual and conditional payments to local stakeholders in return for adopting practices that secure ecosystem conservation and restoration (Wunder, 2005). The PES principle is described through basic five criteria: 1) a voluntary transaction, 2) in which a well-defined ecosystem service (ES), 3) is being bought by an (minimum one) ES buyer, 4) from a (minimum one) provider, and 5) the transaction has conditionality (if, and only if, the ES provider secures ES provision). However, in reality, most of the schemes do not satisfy all five criteria. The assessment of two countries like Bolivia and Vietnam showed that several of these schemes satisfied no more than a few criteria.

PES schemes are expanding in many countries (Landell-Mills and Porras, 2002; Porras et al., 2008), and may be governmental or non-governmental in their establishment, and include carbon sequestration and storage, biodiversity conservation watershed protection, and maintenance of landscape values. The distribution of these programmes worldwide is uneven, however (Wunder, 2009). PES has developed quickly in Latin America, is incipient in Asia and almost absent in Africa (Landell-Mills and Porras, 2002; Huang et al., 2009, cited in Wunder, 2009). This uneven scenario has been attributed to land-tenure insecurity, under-developed and/or weak institutional governance. An important precondition for a given programme to be effective is the need for effective monitoring of the activities being paid for: in the case of REDD+, this would be increases in forest carbon stocks and storage (Wunder, 2009). Nevertheless, interest in PES has been growing recently, due to the re-emergence of the concept of the green economy with Rio+20 (Puppim de Oliveira, 2012) and studies on the economics of environmental resources (e.g., TEEB, 2010).

CFM has been linked to discussions of the promising role of PES schemes in reducing carbon emissions. It can be an effective platform for two major roles in the climate change arena. First, CFM can help to enhance the adaptive capacity of the forest-dependent community through ensuring benefits and livelihood security, and strengthening social safety nets. Second, CFM can help to reduce emissions and enhance carbon sequestration, either through reducing deforestation and forest degradation, or through enhancing afforestation and reforestation. REDD+ initiatives, particularly the carbon payments, are considered to be an effective tool for ensuring these two roles of CFM. However, how and to what extent REDD+ can bring real opportunities to CFM, or how it can be workable both for the carbon credit buyer and local forest user, still remains debatable.

3.2 Governance Challenges Confronting Common-Pool Resources, Payments for Ecosystem Services and Community Forest Management

Recent studies have discussed how variations in institutional arrangements (i.e. governance) shape resource-related outcomes and institutional legitimacy overall (Agrawal, 2007; Cadman, 2011), and have contributed directly to policy changes in forest governance. Forests governed through common property institutions have increased substantially in the past two decades. The total area transferred to a community tenure regime in the past two decades is around 200 million hectares (White and Martin, 2002; ITTO, 2005). Decentralization of forest resources around the world is occurring for the most part under the general rubric of community-based conservation, where communities and their representatives gain varying degrees of collective control over forest resources (Agrawal, 2001). However, in most of these cases, the devolution or transferring of power to the local people is not in the form of pure community ownership, but rather an emergence of new forms of CPR, based around co-management or co-governance arrangements. The continuing increase in forest area controlled by local actors significantly increases the relevance of analysis focusing on institutional arrangements, and the way in which these shape user incentives and actions (Agrawal, 2007), and contribute to poverty alleviation, benefit-sharing, and so on.

In general, individual interests in the short term are not compatible with collective interests in the long term. To align these conflicting interests, local governance over CPRs generally needs collective action (i.e. when individuals jointly contribute and coordinate efforts to achieve better outcomes for all). Even though collective action in CPRs has long existed in many societies (Ostrom, 1990), in modern societies, the state aimed to play a central role in catalysing collective action. However, venues of collective action are becoming increasingly pluralized and less under the direct organization of state – the most dramatic change being the rise to power of NGOs in the international arena and the growth of associations that are replacing, displacing or working in concert with state powers. Collective self-governance of CPRs should be seen as part of the socio-political landscape. Governments have been increasing “governability” by devolving functions to lower levels of government, and by developing public–private partnerships in which associations are involved. Such developments constitute a double-edged sword: governance can reduce democracy if accountability is weakened, but it can also create opportunities for increased participation (Warren, 2002: 982–694).

These developments challenge the traditional viewpoint that geopolitical cooperation occurs almost exclusively within intergovernmental regimes that are negotiated purely in the context of state-based authority (Rosenau, 2000). The traditional, top-down, command-control model of state authority no longer adequately explains the relationship between governmental (“the state”) and non-governmental (or rather “non-state”) interests. Governance has become the means with which to explain this relationship, which is socio-political in nature, and has been defined as a “more or less continuous processes of interaction between social actors, groups and forces and public or semi-public organizations, institutions or authorities” (Kooiman, 1993a). Interaction is key, and is identified as a series of “co”-arrangements between state and non-state actors that is more oriented towards collaborative approaches to problem solving (Kooiman, 1993b).

Such systems of governance now sit alongside traditional, more legalistic, mechanisms (Fiorino, 1996). Governance itself is also understood in terms of its expression not only on the national and international levels, but at all spatial scales (Kjaer, 2004). Contemporary environmental governance, of which REDD+ is an example, articulates this trend particularly strongly, and is exemplified by the interactions that occur between decentralized networks made up of multiple actors functioning at all levels (Haas, 2002).

The observation has been made, however that: “very little exists in articulate form on the subject of the quality participation or the impact of procedures and rules of negotiation” on the outcomes of the broader intergovernmental regimes in which CPR are embedded (Okereke, 2010). A coherent critique of the market-driven governance on which these regimes and resources rely has also only recently emerged. The reduction of state authority and its extension of alternative venues of power – particularly market-based instruments – have given rise to the term non-state market-driven (NSMD) governance (Cashore et al., 2004). The recent global financial crisis has increased scrutiny of NSMD, and led to calls for it to be “re-embedded” within a framework in which institutional legitimacy is based on broad social participation and deliberative democracy (Macdonald et al., 2012). Such considerations have given rise to the development of normative frameworks for determining and evaluating quality (i.e. effectiveness) and legitimacy, an example of which is provided in Table 1 below.

Table 1: Framework for the evaluation of governance

Principle	Criterion	Indicator
Meaningful participation	Interest representation	Inclusiveness
		Equality
		Resources
	Organizational responsibility	Accountability
		Transparency
Productive deliberation	Decision-making	Democracy
		Agreement
		Dispute settlement
	Implementation	Behavioural change
		Problem solving
		Durability

Source: Cadman (2011)

Forest management provides one of the best spaces available to study the emergence of new modes of governance that have arisen in response to globalization (Arts, 2006). This is because it is in the forest sector specifically that some of the most extensive and innovative experiments in “new” governance – of which REDD+ is one of the most interesting – exist. Forest governance consequently provides one of the most useful lenses through which to scrutinize “the increasing tendency for collaboration in many sectors where political and economic trade-offs also exists” (Overdeest, 2004).

At present, more than 40 countries are developing national REDD+ strategies and policies, and hundreds of REDD+ projects have been initiated across the tropics. Many of these piloting and initial projects are focused on the CFM initiatives to transfer the global initiatives and benefits to the local level. The results of these involvements of CFM in the REDD+ initiatives are yet to be understood, but at this moment we can say that the role of CFM in carbon emission or in global carbon governance is emerging. Much of the work on CFM offered insights into how different factors promote or affect the success of CFM outcomes (Ostrom, 1990, 2007, 2009; Agrawal, 2001; Angelsen and Kaimowitz, 1999), which can make a significant contribution to achieving the REDD+ goal (Agrawal and Angelsen, 2009). Many of the factors that contribute to the success of CFM are also relevant to initiatives that include communities in forest carbon management. In spite of various debates in regard to the emerging REDD+ issue, there is general consensus that REDD initiatives are more likely to be effective in reducing emission if they build on, rather than conflict with, the interests of forest communities (Springate-Baginski and Wollenberg, 2010). Community forest management is considered to be an effective platform or institution for achieving the REDD+ goal (Karky and Banskota, 2009; Agrawal and Angelsen, 2009; Blom et al., 2010). Thus, in this context, a significant point of discussion in regard to CFM is its emerging role in reducing carbon emissions.

4. Cases of Community Forest Management and REDD+ Governance in Asia

In the global REDD debate, developing countries have expressed concerns about the rights of indigenous people and communities dependent on forests, and the impact of REDD programmes on such groups. The overwhelming need is to ensure that they are involved in a positive and mutually beneficial way in management, since this is one of the few effective means of limiting emission from deforestation and forest degradation over very large areas. The solution to reducing deforestation and forest degradation in developing countries generally lies with the people who live within and around the forested areas. Any MRV initiatives need to monitor issues regarding local governance to ensure that communities participate in the decisions that affect their livelihoods directly, and that the benefits promised by REDD can be delivered without diminishing communities' well-being.

Deforestation and forest degradation can best be combated by involving the local people in SMF, and by linking incentive mechanisms to livelihood options. This section provides case studies from four countries in Asia that will help us to understand and generate knowledge on carbon governance from the perspective of community forest users.

4.1 Bangladeshi Case: Emerging Role of Community Forest Management in Reducing Carbon Emissions in Bangladesh

This case study from Bangladesh analyses the importance of clear property rights over local resources (e.g. land, forest and carbon) for good outcomes for REDD+ projects. Those rights are still unclear or under rapid transformation in many CFM situations, and this can pose threats to the development of REDD+ initiatives. An indicator of those rights would be key for any MRV scheme.

During the last two to three decades, CFM has become one of the prominent strategies in the forestry sector of Bangladesh. The country is one of most vulnerable to climate change, and its forest areas have already been adversely affected by climate change. The CFM experiences of Bangladesh could be useful for PES in general and REDD+ in particular. Worldwide, there is a growing endeavour to implement a PES type of approach. Nevertheless, there is debate and doubt about what type of payment system is appropriate. Bangladesh has not yet entered into any REDD+ like scheme; however, many of its deforested areas have been turned into reforested areas with the active involvement of communities. The CFM activities that are likely to enhance carbon stocks thus have a high potential to be a REDD+ mechanism at the local level. Despite the promising start with CFM in Bangladesh, inequalities and poor institutional capacity of the CFM are challenging. Most of these CFM initiatives are unable to ensure benefits to the marginal forest communities. Unequal participation in CFM between the marginalized forest community and the local elite community remains a common feature. In addition, land-tenure rights are not well-defined. Many developing countries such as Bangladesh are now in a transitional phase to get involved in new and emerging issues such as CFM; thus, at this stage, it is significant to understand how and to what extent the experiences of CFM can contribute to the benefit distribution of REDD+ initiatives. This study explores what type of governance mechanisms exist and to what extent the local people can participate and gain forest benefits.

To address the greater involvement of community people along with sustainable forest conservation, a “co-management” form of CFM has become popular in many parts of the world. The approach aims to involve the local forest communities directly with the forest governance process, and thus to ensure better SFM and benefit distribution. Bangladesh has one of the highest population densities and one of the lowest levels of protected area coverage in the world. To address these issues, the Nishorgo Support Project (NSP) was launched in 2003 as an undertaking of the Forest Department of Bangladesh, with financial and technical support from the United States Agency for International Development (USAID). The overall goal of the NSP is to enhance biodiversity conservation in targeted protected areas through the active and formal involvement of local forest-dependent communities (Fox et al., 2009).

Methodology

This case study is based on a field survey. The empirical part of the study is based on field work in the Chunuti-Wildlife Sanctuary (CWS) in Bangladesh in 2010. A total of 42 people responded to the two types of survey or interview techniques employed. One was an interview with a semi-structured questionnaire administered to 32 members of the forest user group (out of 865 forest users recognized as members of forest user groups by the NSP project). Among the 32 respondents, 13 were from the co-management institutions, who are forest users as well as members of a Co-Management Council (Council) and Co-Management Committee (Committee); these 13 respondents represent 19.7 per cent of the total membership of the Committee and/or Council. The second data collection technique was the use of interviews with an open-ended questionnaire with key individuals who were knowledgeable on local developments in the area of analysis. The number of respondents for this in-depth interview was 10.

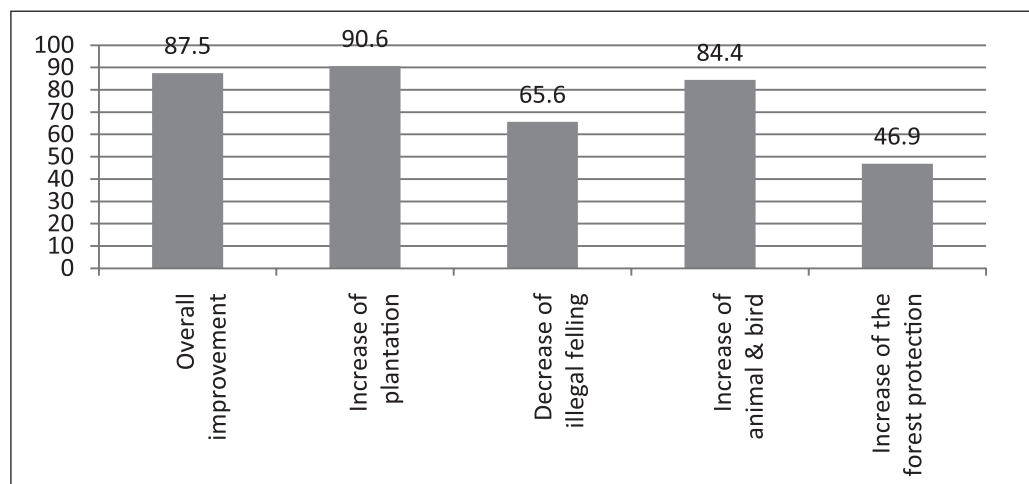
CWS is a small forest area that was declared a protected area in 1986. It is one of the most heavily degraded and deforested areas in Bangladesh. The management plan was based on a co-management approach whereby the Council and Committee were designed as two-tier management bodies. These bodies comprised representatives from civil society groups, local administrators, people from local villages (forest communities), and representatives of various government organizations (IRG, 2006). The Council is responsible for planning, management and decision-making in CWS, including setting and reviewing of annual plans, resolution of conflicts among stakeholders, design of policies, and assurance of fair distribution of benefits derived from the forest and co-management activities. The Committee, on the other hand, is the operational body responsible for the implementation of the decisions and plans approved by the Council. The Committee is responsible for ensuring forest benefit-sharing such as benefits from ecotourism, implementing alternative income generation for sustainable livelihoods and enhancing skills of local stakeholders.

Findings from the Survey

The Contribution of CFM in Forest Protection

To understand the specific impact of CFM in forest protection, the study focused on what types of changes took place, particularly in regards to plantations, animals and birds, and illegal felling.

Figure 1. Changes in forest health



Source: Based on field survey at Chunoti Wildlife Sanctuary from January to March 2010.

Of the respondents to the survey, 90.6 per cent noted an increase of plantation or afforestation, while less than 10 per cent expressed a different opinion. Similarly, 65.6 per cent of respondents thought there had been a decrease in illegal felling and other illegal activities; 84.4 per cent thought that the number of birds, animals and overall biodiversity had increased; and 46.9 per cent noted that forest patrolling and other related protection had also improved. However, the forest users expressed the view that this positive situation is not continuing: illegal logging and other unsustainable extraction of natural resources have increased again after the termination of the previous project period. The co-management institution and their activities became inactive in the interval between the two projects. In this interval period, the forest users felt frustrated as they found that initiatives to sustain and continue the process were negligible.

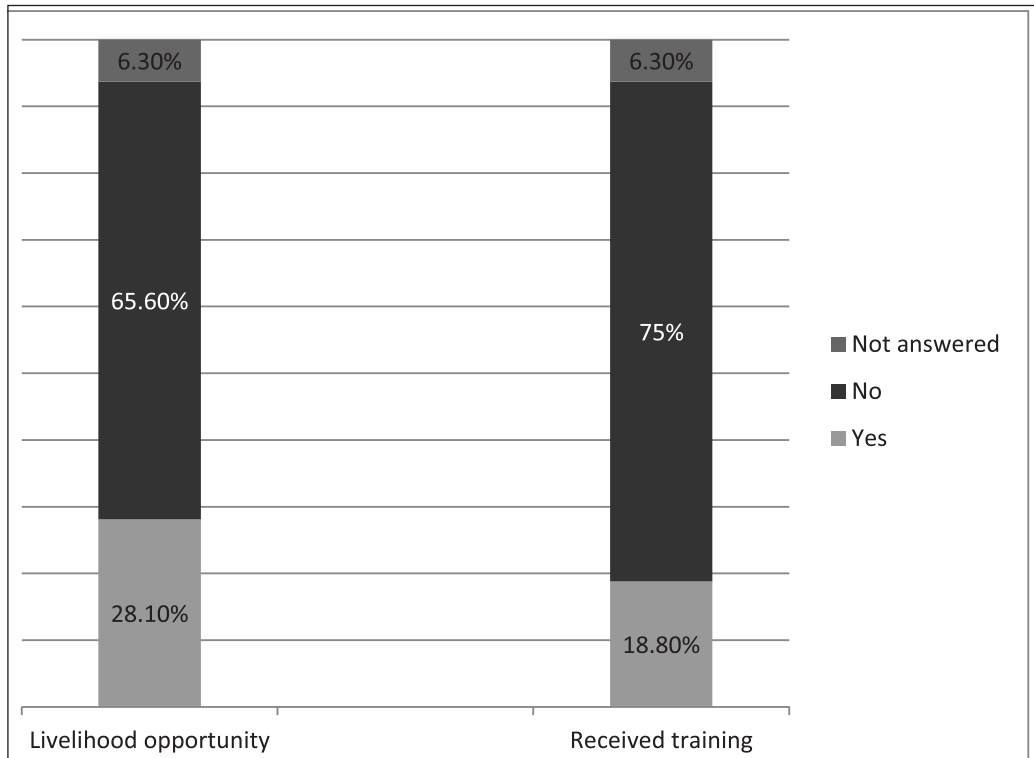
Benefits to Forest Communities

One of the key discussions about the protected area management is whether it really brings benefits to the local forest-dependent community. A total of 28.1 per cent of respondents reported that this project brings livelihood opportunities for the local forest users. Most respondents, 65.6 per cent of the total, reported that the project did not bring any significant livelihood opportunities; they acknowledged that it gave some assurance to them about livelihood opportunities, but in reality few opportunities were given. In regards to the livelihood benefits, they mentioned the formation of patrolling groups, and that these groups received some grant money at one time. Many of the workers who were engaged in the illegal felling took the patrolling jobs, which led to a positive change in this sanctuary.

The most attractive livelihood opportunity the local forest users expect is to get the opportunity to receive land from the forest department to do social forestry. During the NSP project period, the co-management Committee members participated with the FD in distributing such kind of lands. However, the marginalized groups thought there were

no significant changes in land distribution. According to the opinion of the marginalized forest community, larger opportunities go to the local elite, who already have possession of governmental land (*khas* land).

Figure 2. Benefits related to livelihood



Source: Based on field survey at Chunut Wildlife Sanctuary from January to March 2010.

The NSP offered training on alternative income generation to a limited number of user groups with a limited scope. Only 34.4 per cent of the total respondents participated in some kind of training or awareness programme. These training programmes were on alternative stove use, poultry, nursery, etc. The remaining 59.4 per cent of the respondents did not receive any sort of training or education for alternative livelihood or forest conservation or related activities. A large number of the forest users depend directly or indirectly on non-timber forest products (NTFPs). However, there are no significant initiatives to improve the NTFPs market for the local forest users.

Forest Communities in Forest Governance

Decision-making space for marginalized forest communities

The survey found that the co-management institution is being developed to create some space for the forest communities, but the space does not necessarily reflect the space of the marginalized forest users in general. In the Chunut (only in the Chunut range) forest, there are only 38 forest user groups, with 865 forest users under the project at that time. The forest user groups in Bangladesh remain as an informal entity; even the

co-management initiative forest user group could not be developed as a full-fledged local institutional body. The forest user groups remain as informal groups that lacks definite membership or definite activities. Some of the forest user groups, such as the patrolling groups, are an exception. These patrolling groups are relatively well organized, having definite activities and benefits.

The distribution of membership in the Co-Management Institution

The distribution of the membership of the Co-Management Committee and Co-Management Council is shown in Table 2 below.

Table 2. Distribution of the membership in the Co-Management Council and Committee at CWS (Chunoti range)

Name of different representatives	No. in the Council	In %	No. in the Committee	In %
Government agency	17	34	6	31.5
NGO/CBOs	3	6	3	15.8
Forest users (ordinary)	6	12	2	10.5
Forest users (elite groups)	24	48	8	42.1
Total number of members	50	100	19	100

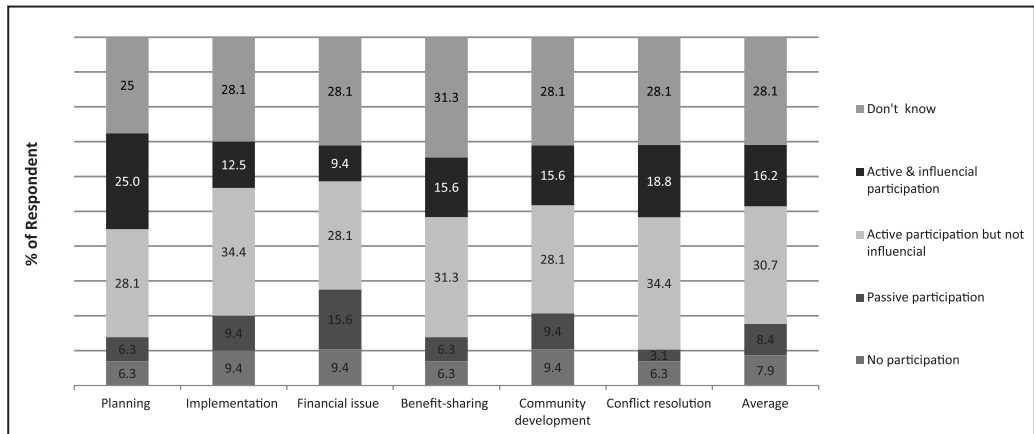
Source: Data from the local office of Integrated Protected Area Co-management (IPAC) project at Chunoti.

This distribution of the membership shows that the number of the representatives of forest user groups in the Co-Management Council and Committee was 12 per cent and 10.5 per cent, respectively. A total 34 per cent of members on the Council were from government agencies, which also included local government, law enforcement representatives (local police) or district agricultural representatives, and so on. In contrast to the other representatives of the society, the resource owner group and elite group (generally, we can call them local elite group) was around 48 per cent and 42 per cent in the Council and Committee, respectively. In CWS (in the Chunoti range) the total number of the households is 3,636 and the number of the community people is about 20,000 (IRG, n.d). Most of the community comprises the ordinary and poor forest users who depend on forest resources directly or indirectly for their livelihoods. These majority peoples are disproportionately represented both in the Co-Management Council and Committee.

The pattern of participation in the Co-Management Institution

The survey on the pattern of participation in discussion of six specific agenda items — for example, planning (year planning), implementation of the planned activities, financial-budget matter, benefit-sharing discussions, community development and conflict resolution — found that their participation varied from agenda to agenda. Figure 3 shows the details of the participation pattern on different issues.

Figure 3. Pattern of participation of Co-Management Council member on various agenda



Source: Based on field survey at Chunut Wildlife Sanctuary in 2010.

This study categorized the pattern of participation as 1) no participation, 2) passive participation, 3) active participation but cannot make any influence, and 4) active participation and can make influence equally. The survey found that members were relatively less active and less influential in the financial and budget-related discussions than in the other discussions such as year planning or community development. But, for the overall process (on average) 30.73 per cent of respondents thought that the members of the Committee could actively participate in the meeting but ultimately could not influence the decision-making process. A total of 16.1 per cent of respondents felt that they actively participate and could have an influence. Some 7.85 per cent of participants thought the members have nominal or no participation, while 8.35 per cent thought they have passive participation. Some 28 per cent of the respondents did not answer because they did not have enough idea of what actually happens in the meetings. In the interviews, the participants reported that, in most of the cases, the elite peoples who already have a position and command in the society take the leading role on behalf of the forest user groups. The marginalized forest users also get some opportunity to participate, but ultimately that does not work. In regard to the partnership feelings, the poor forest user groups reported that they do not feel they have an equal partnership with elite members or project officials. Some 46.9 per cent of respondents thought that their partnership with the project was not equal, 31.6 per cent reported having one kind of equal partnership, and 6.3 per cent felt that they are not partners at all, but just beneficiaries. This inequality was highly visible in the case of women forest users. The entirety of women representatives in both the Co-Management Committee and Council were from the local government, and they represented largely the local elite class. None of the women representatives came from marginalized women forest users.

Land-tenure insecurity and trends of marginalization in Bangladesh's forests

Like many other protected areas, there are people in CWS who are using lands with complicated and unresolved tenure areas for prolonged periods of time. The respondents expressed that, at the beginning, they witnessed protests about the protected area conservation initiatives. There were also several confrontations in the area. People were initially reluctant and unwilling to accept the initiatives of the

protected areas, but gradually they were convinced with the assurance of getting their lands and some benefits. In the management plan it has been expressed that the co-management initiative will provide effective protection against the forest and land-encroachment problem. However, there is no specific plan or objective to resolve the land-tenure complexity for long term. There is a plan to distribute some of the *khas* lands (Government land) to spread social forestry by community forest users with the formation of protected areas. Until now, 120 hectares of land on the buffer zone of the protected areas have been distributed to the 240 local forest users. However, according to the opinion of the forest user groups, a large portion of the land distribution went to the local elites as they have good connection with the management authority. There is no specific study or data about the violent conflict or displacement of forest communities in the Chunoti forest area. Nevertheless, land encroachment, displacement of original people and tenure insecurity are often interlinked in many ways. It is also mentionable that Chunoti is located very close to the Chittagong Hill Tract (CHT) forests, which is one of the most deforested areas; also, the forest communities in this area suffer heavily from land-tenure insecurity over the past two centuries. This similar tenure insecurity exists in other forest areas of Bangladesh, including Chunoti, where many of the forest communities lost their land with one kind of state supported land encroachment.

Discussions

This study demonstrated that co-management has brought some changes in several areas; however, changes have been limited and insufficient. As a consequence of receiving limited benefits and of the mistrust created, the study found that community people became reluctant to continue the protection of forests at the end of the project period. This imbalance between the two outcomes indicates that, if the goals of protection of forest and forest communities cannot work together, future sustainability is threatened.

This outcome led us to ask why the initiative could not achieve its expected result. The above case study revealed that the co-management initiative has largely ignored some of the underlying socio-political factors that influence its outcome.

First, the institutional capacity of CFM in the co-management arrangement was poor. Despite the potentiality, the role of the CFM and CFM *per se* could not grow properly. One significant change in the co-management arrangement is that CFM is developed with a formal institutional arrangement; it transferred some of the authority of forest management from a state-centric to a people-centric model. However, their involvement still remains confined to some limited areas and in general their role in decision-making is not influential. The level of community participation can be referred to as “tokenism”; that is, they are allowed to hear and have a voice, but they lack the power to ensure that their views are properly discussed (Arnstein, 1969). This arrangement weakens the capacity of the local CFM institution, which fails to secure the forest communities’ input in forest management.

Second, it ignored the socio-political factor of resource capture by the local elite. Many of the livelihood strategies of the marginalized people are controlled by the local elites, and the co-management arrangement could not break this pattern. The co-management initiatives placed high emphasis on the local elite, rather than on the marginalized forest

users. As a result, the forest user groups simply remained as an informal institution, and marginalized forest communities have a disproportionate presence in the co-management institution.

Thirdly, it did not emphasize the tenure security of the forest communities. The idea of REDD+ initiatives and related opportunities for the forest communities is simple, but the most challenging and significant question in this arrangement is to ask who has rights to the carbon payment. Solving the land-tenure situation will have a very significant role in determining the use of REDD+ benefits for the forest communities as well as the role of forest communities in REDD+ activities. The most significant achievement of the initiatives is that it brought some change in forest governance by including local people in the forest governance process; however, it did not contribute to any changes in land rights, land tenure or forest tenure matters.

The reward of carbon offsets is very appealing because it can bring significant monetary and other benefits to the individual and community level. The debate continues as to how best to achieve this. As this study reveals, despite a promising start with the co-management-oriented CFM, inequalities, poor institutional capacity and insecure land tenure remain a significant challenge. The present devolution of forest management through the CFM strategy is a relatively new phenomenon in Bangladesh and offers wider possibilities for positive growth. The initiatives of transferring central control of forest management to local institutions should be further extended, establishing an effective local CFM institution. The inclusion of broader local forest communities in forest governance and the secure tenure of land and forest resources would not only ensure the benefits of the forest communities, but would also ensure their sustainable commitment.

4.2 Indonesian Case: Local Governance Lessons from the Implementation of a Public–Private Partnership REDD+ in Meru Betiri National Park, Java

This case study on CFM in and around Meru Betiri National Park (MBNP) in East Java points to the need to understand the general rules and decision-making processes over CPRs, including forests, as well as the role of each stakeholder in influencing those decisions and enforcing those rules. Indicators about the fairness and openness of decision-making processes and the adequacy of the existing rules over CPR can help to assess the impact of REDD+ initiatives on community rules and decision-making processes.

Indonesia has emerged as one of the most important countries for the promotion of REDD+. With an estimated forest area of 136.9 million hectares, Indonesia encompasses more tropical forest than do all but two other countries in the world. At the same time, the deforestation of about 27 million hectares of forest from 1990 to 2005 has made Indonesia one of the world's 10 largest GHG emitters, with more than half of the country's total emissions coming from activities related to LULUCF. If business goes on as usual, LULUCF will continue to be a major source of emissions until 2020, although the contribution of the energy sector is increasing.

The Indonesian government recognizes the importance of reducing emissions from LULUCF. It has made a voluntary commitment to an emissions reduction goal of 26 per cent below the "business-as-usual" level by 2020, and a stretched goal of 41 per

cent, contingent on additional outside assistance. However, it will be very challenging for Indonesia to achieve even the 26 per cent reduction target while simultaneously improving the socio-economic conditions of forest-dependent people.

This report discusses the development of REDD+ strategy and demonstration projects in Indonesia, and investigates local governance challenges through a case study of a public–private partnership REDD+ in MBNP in Java. Combining stakeholder analysis and an analysis based on Ostrom’s CPR principles, we identify the general challenges in implementing REDD projects in Indonesia and the lessons learned from the case study.

REDD+ Strategies and Demonstration Projects in Indonesia

Indonesia is currently participating in a number of REDD+ initiatives, including the World Bank FCPF, the UN-REDD+ Programme, the REDD+ Partnership, the International Tropical Timber Organization (ITTO) REDDES Programme, and other multilateral and bilateral REDD programmes.

REDD+ is becoming the mainstream of government policy related to climate change. The Ministry of Forestry has undertaken a variety of initiatives to promote the effective design and implementation of REDD+, including the formulation of a national REDD+ strategy and the establishment of a climate change working group. REDD+ strategy includes reducing forest conversion and forest access that causes permanent change, improving forest-fire management, tackling illegal logging, rehabilitating degraded land, and restoring forest ecosystems (ITTO, 2011).

Seven demonstration activities (DA) under the auspices of the Indonesian government, and more than 30 voluntary projects, are currently taking place in various areas of the country. The aim is to test and develop methodologies related to reducing emissions from deforestation and degradation. In addition, DA REDD projects serve as a facility for learning by doing, and a means to build commitment and synergy among stakeholders.

In 2010, a partnership was established between the governments of Norway and Indonesia to reduce GHG emissions as a means of addressing deforestation and forest degradation in Indonesia. This partnership pledged total grants of USD 1 billion to be expended in three phases (Letter of Intent, 2010). To ensure the effective implementation of this partnership, Indonesia’s President Yudhoyono issued Presidential Decree No. 19/2010, establishing a REDD Plus Task Force involving high-level decision-makers from line ministries as task force members.

Now that Indonesian forest policy has been integrated with REDD+, supportive national policies, regulations and measures are being developed and implemented. These include strengthening the governance of the forest sector by promoting the empowerment of local communities. However, Indonesia will face many challenges before it can achieve result-based REDD+ payments. In addition to the establishment of a robust national forest resources monitoring system, socio-environmental and governance safeguard measures need to be put in place, with a safeguard information system to monitor the maintenance and enhancement of the long-term sustainability of the livelihoods of indigenous people and local communities.

Tropical Rainforest Ecosystems in Meru Betiri National Park REDD+

MBNP is located in southern East Java province and is surrounded by the two districts of Jember and Banyuwangi. MBNP covers about 58,000 hectares of mangrove forest, swamp forest, and lowland rainforest ecosystems and includes a natural habitat of the rafflesia flower (*Rafflesia zollingeriana*) and a variety of medicinal plants. MBNP is also home to several protected animals, including 29 species of mammal and 180 species of bird, and is the last known habitat of the Javan tiger (*Panthera tigris sondaica*), a highly endangered species.

The importance of the MBNP region for conservation has been recognized since the Dutch colonial government declared it a protected forest in 1931. After Indonesia's independence, the area was nominated as a nature reserve in 1967, awarded wildlife sanctuary status in 1972, and recommended as a national park in 1982. In 1997, it was finally designated as a national park comprising about 58,000 hectares (Ministry of Forestry, 1997).

In terms of the function, MBNP forests are divided into five zones: core zone, intact forest zone, utilization zone, rehabilitation zones and buffer zone. Despite its clear legal status as a conservation area, deforestation in the buffer zone and degradation inside MBNP due to illegal activities have taken place throughout the area. In particular, the utilization, rehabilitation and buffer zones are under pressure from the illegal harvest of biological diversity, deforestation and encroachment. These illegal activities have caused significant reduction of ecosystem function.

To address the main causes of deforestation and forest degradation in the MBNP, a public-private partnership REDD+ has been established between ITTO and the Ministry of Forestry, with the financial support of Seven & i Holdings of Japan (ITTO, 2008). The Ministry of Forestry has recognized this partnership REDD+ as one of seven DAs in Indonesia. Since 2009, this has brought new ideas to MBNP that have contributed positively to conservation of forest carbon stocks and biodiversity and poverty eradication programmes.

Stakeholder Analysis of the MBNP REDD+

The main stakeholders in the MBNP REDD+ include local communities living inside the park and in the area surrounding it, MBNP, the Ministry of Forestry, universities and/ research institutes, a local NGO (i.e. LATIN), and the two private plantations inside the park area. Their characteristics, problems, needs, potential and involvement in the implementation of the MBNP REDD+ DA are summarized in Table 3.

Two factors that make the project site unique are 1) the existence of two private estates inside the park that have been in operation for a long time and 2) local communities that have lived around and inside the MBNP area since before it was declared a park. The average income level of the communities is below the national average and below the poverty line. The income gap between plantation labourers and farmers has led to frictions between the communities located around the forest and those inside the enclaves (Qadim, 2012).

Since 1960, the two plantation companies PT. Sukamade Baru Banyuwangi and PT. Bandalit Jember have held cultivation rights (HGU) inside MBNP. In 1998, the Forestry Minister extended these HGU for an additional 25 years. The companies have been growing economic crops including coffee, cocoa, rubber and *seigon* trees in the park enclaves. This is viewed as unfair by the farmers involved in the rehabilitation programme, who are not allowed to plant these species, and has become an issue in the negotiations between the farmers and the park authorities (Qadim, 2012).

This analysis shows that illegal logging and encroachment have been allowed to take place through a combination of factors including a lack of law enforcement, insufficient incentives for communities and governments to maintain the conservation forests, and the low capacity of the institutions in charge of forest management.

Table 3. Stakeholder Analysis for Meru Betiri National Park (MBNP)

Institutions	Characteristic	Problems / needs/potential	Involvement in MBNP REDD+ Demonstration Activities (DA)
Local communities living inside and around MBNP	Highly dependent on natural resources (state forests as main sources of income)	Lack of knowledge and skills; lack of alternative sources of income	Local communities are to be directly involved in the implementation of community-based conservation management, alternative income generation, and prevention of illegal logging and encroachment. Eleven local communities (about 23,800 residents) are to be engaged in the establishment of community-based forest enterprises. In the rehabilitation zone, six agroforestry models have been introduced by LATIN (a local NGO) in cooperation with Bogor Agricultural University. A total of 2,155 ha of buffer zones will balance community activities and conservation. Ecotourism, agrotourism and medicinal plant cultivation have been introduced.
MBNP	Key element in the overall management of MBNP	Weak institutional capacity and limited resources for enforcement of regulations	Involved in operational aspects of the DA including reporting. Enforcement of regulations against illegal logging and encroachment.
Ministry of Forestry	Key element in the overall management of state forests, including conservation areas	Weak coordination, human resources, technology, law enforcement	Provides general guidelines for implementation of DA. Facilitates the discussion and monitoring of the progress of DA. Applies the lessons learned from MBNP REDD+ DA to national policy.
FORDA/ Executing Agency	Key element in the overall management of DA	Limited coordination, resources, technology, accessibility	Takes the lead in implementing demonstration activities in collaboration with all relevant stakeholders. Facilitates stakeholder consultations for effective implementation of demonstration activities. Leads the dissemination of findings and lessons learned from demonstration activities.
Universities and research institutions	Prominent institutions in the development of technologies	Lack of facilitation, media, development/ implementation of findings	Involved in the development and promotion of the technology required for a robust carbon and biodiversity monitoring system. Involved in assessment and development of monitoring systems, resource base inventory, etc.

Institutions	Characteristic	Problems / needs/potential	Involvement in MBNP REDD+ Demonstration Activities (DA)
Local NGO (LATIN, an existing local NGO)	Plays an important role in community development, extension and mediation	Lack of facilities, access to formal institutions, and resources	Involved in community development and income generating activities. To continue and expand existing initiatives.
Private plantations inside MBNP	Obligated to maintain the forest areas along the borders of the plantations	One plantation (Bandealit) has performed poorly, which could affect its ability to protect the surrounding forest area	Provide employment to many villagers. Educate staff and labourers (and their families) about maintaining forest ecosystem for their own benefit. Help guard the forest area from illegal loggers and animal poachers.

Ostrom's CPR Principles Analysis

The MBNP REDD+ and the park management system were analysed using Ostrom's design principles for stable management of CPRs. By identifying the observed strength of each principle, some recommendations can be made for the full and effective participation of local communities in the MBNP REDD+ and the park management system. MBNP has the two common attributes of CPR as described by Ostrom, et al. (1999: 1) it is costly to exclude individuals from using the goods either through physical barriers or institutional means, and 2) benefits consumed by one user subtract from the benefits available to others.

Table 4. Analysis Using Ostrom's Common-Pool Resources (CPR) Principles

No.	CPR principle	Performance	Room for further improvement
1	Clearly defined boundaries	Fair	Based on Act No. 41/1999 Article 15, registering a national park in the gazette is a four-step process: <i>penunjukan</i> (designation), <i>penataan batas</i> (boundary delineation), <i>pemetaan</i> (mapping), and <i>penetapan</i> (confirmation). Forestry Minister Decree No. 277/Kpts-VI/1997 that designated Meru Betiri as a national park is only the first step. Park authorities should push for the completion of the next steps to avoid potential boundary conflicts in the future. Transparent negotiations with actors at the grassroots level should also be encouraged when making zone decisions.
2	Local adaptation of rules on appropriation and provision of common resources	Fair	Decisions on what tree or plant species to grow in the rehabilitation zone should be adjusted to fit local consumption and market needs. Allowing farmers to cut down fully grown trees without economic value should be considered with some limitations. Communities should be assured that they will retain utilization rights even after the degraded land has been fully rehabilitated.
3	Participation in decision-making process	Weak	Although park authorities are required to comply with government regulations, they should encourage the community to give feedback to enhance implementation effectiveness.

No.	CPR principle	Performance	Room for further improvement
4	Effective monitoring	Weak	Park authorities should give incentives to local communities to help the guards watch over protected areas. Information dissemination and socialization of rehabilitation programmes need improvement.
5	Graduated sanctions for violations	Weak	Social pressure on violators and their punishment should be encouraged so as to discourage future violations more effectively.
6	Conflict resolution Mechanism	Weak	Instead of bringing violators to trial, where capacity and transparency are limited, traditional and more effective conflict resolution alternatives should be encouraged.
7	Self-determination of the community	Weak	Park authorities should listen to community aspirations for their future and help facilitate them. Recognizing <i>de facto</i> community leaders—both formal and informal—would be a first step toward a trusting relationship.
8	Multiple layers of nested enterprises	Weak	In particular, for the steep-slope rehabilitation zone, it is important to clarify the layers of authority and responsibility for managing different parts of the slopes to ensure that farmers at the lower levels are not disadvantaged by mismanagement at higher levels.

Based on the above stakeholder analysis of the MBNP REDD project and the analysis using Ostrom's CPR principles, we have discovered a number of local-level governance challenges to the promotion of REDD+ initiatives. Below, we summarize these challenges and the lessons learned from the case study.

Looking Ahead

REDD+ offers Indonesia tremendous opportunities to enhance social and environmental sustainability through the conservation and sustainable use of tropical forests. It also offers the opportunity to include local communities in the design and implementation of on-the-ground activities on the local level. It is, therefore, essential to establish appropriate local governance structures that are in accordance with the Cancun Agreements regarding the full and effective participation of indigenous people and local communities in REDD+.

Many national parks in Indonesia have long-term conflicts with indigenous and local communities. One of the challenges for solving such conflicts is to provide more positive incentives to indigenous and local communities living around national parks. It might be necessary to link to the opportunities of "conservation of forest carbon stocks" under REDD+, because they are well positioned to significantly conserve biodiversity and at the same time, to reduce GHG emissions caused by deforestation and forest degradation. More national efforts to conserve national parks are needed by integrating biodiversity benefits into REDD+, and the improvement of local governance through the strengthening of institutional frameworks is vital in order to appropriately represent the needs of local communities.

4.3 Indian Case: Linking Participatory Carbon Governance and Rural Energy Systems: Lessons from Indigenous Carbon Management Practices in Indian Tropical Forests

Communities around the world rely on forest products for providing key elements for their livelihoods, including wood products such as wood-fuel for cooking or heating. REDD+ initiatives may affect the way communities manage and consume those resources. It is fundamental that REDD+ does not undermine the supply of those products in the short and long term, allowing communities to have a source of supply of traditional wood products, and even reinforce the links between REDD+ and local wood-related activities. Having indicators that could provide an assessment of the impact of REDD+ initiatives on the management and use of wood-related products would assure that communities are not having to make trade-offs between carbon biomass for REDD+ and wood for products important for local livelihoods.

India ranks among the 17 mega-biodiverse countries of the world, and Indian forests contribute a major share towards this. Forests constitute a substantial resource sink for managing terrestrial carbon in India. Additionally, the Indian tropical forests are an indispensable source of renewable energy for nearly 400 million people. Apart from seasonal non-wood products, the forests cater the energy needs of communities and provide fuelwood to the local people. Although non-timber (non-wood) forest products contribute to nearly 50 per cent of the average annual income of about 30 per cent of the rural populations, the local communities benefit from a perennial supply of fuelwood, mainly in the form of dead, dying or diseased trees and woody biomass collected from the forests.

Before the 1990s, management of fuelwood for meeting rural energy demands was seldom regarded as a priority concern, because wood-fuel was supposed to be an inexhaustible forest-based resource. There was neither a long-term policy nor any institutional mechanism for ensuring the sustainability of fuelwood as a source of renewable energy. Therefore, a systematized mechanism for sustainable management, harvest and marketing of fuelwood was virtually non-existent. Wood-fuel as an energy resource remained either undervalued or underused for reasons such as lack of knowledge of sustainable management, unsustainable harvesting practices, wastages in harvesting and inadequate processing, lack of proper storage facilities and unavailability of ready market channels. Due to population pressures and growing demand for forest products (including fuelwood), the forests were subjected to unsustainable harvesting practices, causing widespread deforestation and degradation. This hampered their long-term sustainability and resulted in significant losses of carbon stocks from forests.

Since the enactment of the long-term policy of joint forest management, the rural communities have been following an adaptive co-management model, where the forests and forest carbon are being jointly managed through innovative community-state partnership institutions. These participatory forest management systems are now doubling-up as sustainable carbon governance architectures, and the communities are benefiting from these mechanisms. Additionally, there are certain indigenous forestry practices followed by villages of central Indian forests that reduce the dependency load on the forests and thus help better management of forest carbon.

This section draws on the sustainable carbon management practices followed by indigenous communities in a forest fringe village in central India. The study tries to explore the potential of peoples' institutions in monitoring carbon fluxes and managing forest carbon stocks using people's indicators, and explores the possibilities for initiating the REDD programme in the area.

Forests and Climate Change Mitigation in India

The Indian tropical forests are unique in regards to their resilience to natural hazards and climatic changes, such as frequent droughts and floods. As per the most recent forest assessment by Forest Survey of India (SFR, 2005), the total forest cover of India stood at 677,088 square kilometres (equivalent to 20.60 per cent of its geographic area). The locals and indigenous communities heavily depend on the forest resources for harvesting and collection of fuelwood, which is one of the four basic needs of life (the other three being food, shelter and clothing). They also harbour a variety of species that yield commercial timber and fuelwood, as well as seasonally available non-wood forest products (NWFPs), which are a valuable source of income and livelihood for the local communities.

Due to remoteness from urban areas, and inadequate access to fossil fuels (cooking gas and kerosene), the rural communities depend exclusively on forests for energy needs, mainly in the form of fuelwood for domestic cooking. Biomass fuel remains the chief source of energy for a major part of the population, because the cost of liquefied petroleum gas (LPG) and kerosene is too high, and there are logistical problems associated with transporting LPG, electricity and petroleum products.

It is commonly believed that fuelwood is a "dirty" energy source because it produces smoke, depletes the carbon stocks from forests, and spoils forest health and sustainability. But there is increasing evidence to prove that planned and sustainable removal of dead, dying or diseased woody biomass from the forests as fuelwood, and its subsequent replenishment through afforestation, has multiple benefits, viz.: 1) it facilitates the undergrowth of seedlings that rapidly sequester/absorb CO₂ from the atmosphere; 2) it removes diseased trees, reducing the spread of forest diseases and acting as a quarantine mechanism and promoting better forest-ecosystem health; and 3) fuelwood contributes to socio-economic development of the communities, because the local communities use fuelwood for cooking and other domestic purposes. The "balancing act" of production and consumption of wood by local communities gives rise to a "carbon-friendly" scenario, because the communities 1) forego the use of fossil fuels and resort to traditional wood-fuel, 2) use a locally available carbon sink as cooking fuel (viz. local woodlots, which are easily replenished with very little investments), 3) save time and costs for transportation of traditional fuel (kerosene, petrol, LPG, etc., with their packaging, storage and transportation issues) and reduce the associated environmental impacts.

Additionally, through a co-management regime and compensatory afforestation activities, the communities "offset" their own carbon emissions because they plant more trees on degraded lands, assist in regeneration of degraded forests, and have a negligible

carbon footprint. In addition to meeting the domestic needs, the local trade of fuelwood and NWFPs contributes substantially to their annual incomes and assists in their socio-economic development.

The system of wood-fuel trade in India includes its production, harvest, supply, transport and sale. Wood-fuel continues to be an important fuel option in rural and tribal regions of India, especially in the domestic sector.

In 1993–94, the share of traditional fuels in the country's overall energy consumption was estimated to be about 33 per cent. Of that total amount, wood-fuel alone accounted for about 30 per cent, with wood-fuel use in the domestic sector accounting for 62 per cent and 35 per cent in rural and urban areas, respectively. Although wood-fuel demand in urban areas has started to show a declining trend in the 1990s, estimates from the Regional Wood Energy Development Programme (RWEDP) in Asia suggest that at the national level wood-fuel consumption in India is still growing in absolute terms at an annual rate of 2.2 per cent (RWEDP, 1999).

In spite of the benefits of using a renewable resource, wood-fuel is still condemned as a major cause of the depletion of the country's forest cover, and its present legal status is not encouraging for the private growers and transporters of wood-fuel (RWEDP, 1999). Information on wood-fuel supply and demand, volume/value of traded wood-fuel, income and employment generation potential in the wood-fuel sector is still not adequately documented and researched in most developing countries, including India. The harvesting rules and the management practices for fuelwood, timber and NWFPs are governed by the National Forest Policy of India, and several other regional regulations and forest laws. Hence, to appreciate the relationships between SFM practices, renewable energy from wood-fuel and their linkages with community participation, it is necessary to throw some light on the National Forest Policy.

People's Participation in Sustainable Forestry and Carbon Management: Regulating Fuelwood Collection and Use – the *Nistar* Facility

This section attempts to capture and analyse the potential of leveraging people's participation in climate change mitigation and carbon governance through forestry initiatives, particularly in the case of the *Nistar* facility. The study is based on the findings and learning from a research site in the state of Madhya Pradesh (having the largest area under forest cover), where an ITTO-funded project on criteria and indicators (C&I) for SFM has been implemented since 2001. The project aims to sensitize the communities and people's institutions viz.: joint forest management committees (JFMCs) towards conservation and management of forest resources, by evolving and implementing people's indicators for sustainable carbon governance and forest management. The communities use the C&I system for evaluating and monitoring climate change, thus providing a better picture of forest sustainability and status of forest carbon.

The *Nistar* facility serves two purposes: first, it allows the villagers to extract one headload of fuelwood per person per day (of dead, dying or diseased trees or woody biomass) and some selected NWFPs from the forest area allotted to the JFMC (within a 5-kilometre radius of the JFMC); and second, it aims to provide small timber and bamboos for household use at specified concessional rates through specially made *Nistar*

depots. These concessional rates for small timber and bamboo are decided by the forest department, and are much lower than prevailing market rates. There are 1,896 *Nistar* depots and 309 central/consumer depots for a total of 2,205 depots, which supply *Nistar* material in the state of Madhya Pradesh. The value of concession under *Nistar* sale is substantial. During 1999–2000, the value of the concession was INR 34.43 crores (INR 344.3 million). Supply of bamboo, fuelwood, poles and small timber is available at concessional rates for *bona fide* domestic needs of people living within five kilometres of forest fringes.

To manage the fuelwood and NWFP resources sustainably, the immediate stakeholders (communities) need to be sensitized about the importance of forest certification, and trained in sustainable management and evaluation practices. To achieve this, it was necessary to understand the current utilization pattern of NWFPs quantitatively. The study site was a forest village having a functional JFMC, which is also one among the 40 committees where the ITTO's research project is being implemented. Through the use of research tools, the following study tries to analyse the forest situation in the site and assess the potential of people's participation in evaluating climate change and assisting SFM.

The study site is a village named Mathar located in Delabadi forest range, which is a part of Ratapani wildlife sanctuary in Madhya Pradesh state. Ratapani wildlife sanctuary is situated partly in the districts of Raisen and Sehore, and comes under the jurisdiction of Obedullahganj Forest Division, located in the heart of the state of Madhya Pradesh. The area, being a sanctuary, is under a management plan that is currently under revision. The village has an Eco-Development Committee (EDC, a JFMC), responsible for undertaking forest protection activities. The total forest area allotted to the EDC of Mathar for joint management is 4,684.541 hectares, over which the villagers have usufruct rights. The forests in the area are of tropical dry deciduous teak type. The major forest crop is teak (*Tectona grandis*), though bamboos and a host of NWFP-bearing trees are also found.

The research site is situated in the immediate vicinity of the forest area, and the resource use pattern bears an intimate relationship with the forest ecosystem. The village had a population of 917 individuals. The average number of individuals per family in the village was seven to eight. About 91 per cent of the houses in the village were made of woody materials such as bamboos, with grass-thatched roofs, and had medium-sized timber poles (15 cm girth). The average yearly requirement of timber for house construction and repair purposes per household was about 30 kg dry weight of timber. The people used firewood for cooking. This was either extracted from forests or from trees growing on agricultural fields. The average annual requirement of fuelwood per family (of eight people) was 12 cartloads (roughly equivalent to 18 tons).

The villagers planted trees around their households and along agricultural farm boundaries, which were also a source of fuelwood besides yielding NWFPs, fodder, and small timber. Around 10 per cent of the total fuelwood demand is met from these trees. This shows that the communities have a tendency to grow fuelwood and other NWFP species in their backyards and on their farm bunds. During the village-level survey, fuelwood bearing species were observed in 75 per cent of the forest areas, and their regeneration was found to be good (1,413 seedlings per ha) which is far above the average natural regeneration status of the forests in Madhya Pradesh.

Most of the villagers were farmers with very small land holdings (on an average of 2 acres per household, the smallest being 0.5 acre) and practised rainfed agriculture. Since the rainy season in the study site lasts for around four to five months (from June to October), most of the villagers were occupied with agricultural activities during these months. During the other months, some of the villagers migrated to nearby towns for contractual labour. Owing to their close proximity to the forests, the villagers regularly visited the forests to collect fuelwood. Since the forests were of the dry deciduous type, there were a variety of fuelwood and NWFP-bearing species throughout the year. The villagers extracted seasonal fruits, leaves and flowers from the forest area allotted to the JFMC.

The fuelwood was harvested by headloads, where each family harvested about 18 tons of fuelwood per year. Most of the harvested fuelwood went into domestic use, but most of the NWFPs were sold in the nearby markets to middlemen at nearby towns. These NWFPs were available only during a specific period of the year, making the markets highly vulnerable to demand and supply fluctuations, and affecting their prices (and accrued profits).

People's Indicators as Tools for Evaluation of Forest Sustainability and Carbon Governance

In the inception stage of the project, the methodology comprised three well-defined processes. The first step was sensitization of the local-level actors about the need for assessing changes in the forest status, and the concepts of C&I and SFM. The tools for this purpose varied from open-house discussions, group exercises on the status of forests before and after joint forest management, games, analogies of measurements, C&I and sustainability in local contexts. Building on the local contexts and experiences, the process helped the stakeholders to develop a clear understanding of C&I and SFM. The second step was based on the concept of breakout groups (Margoluis and Salafsky, 1998). The participants were divided into small groups which then evolved indicators through brainstorming, and these were reported to the whole group. After discussions on the evolved indicators, a draft set of indicators was determined. In the third step, the evolved indicators were validated in the forest. A transect walk was taken in the forest area managed by one of the participating JFMCs, and the evolved indicators were identified and validated in the field. Additional indicators, if visible, were also listed. Presentations and discussions followed and an acceptable set of C&I was finally developed.

By using structured interviews, some of the traders (where the villagers sold their products) were interrogated about the selling price of fuelwood and NWFPs. At the village level, in order to gather the requisite information, a household survey was conducted by administering an open-ended village-level questionnaire (sampling intensity was 10 per cent). The tools used were participatory rural appraisal (PRA), focus group discussions (FGD) and time line method. Since a wildlife sanctuary comes under the category of a protected area, no extraction of commercial or bulk timber is allowed. Hence, the practice of growing on-farm fuelwood and NWFP trees was also studied and documented during the surveys.

In the series of training workshops which followed thereafter, participants included all the stakeholders at the local level, including the JFMC member men and women, representatives of local NGOs, and representatives of other local institutions (i.e. Panchayat, schools and the frontline forest department personnel). The participation of all the local-level actors ensured that the different perceptions, priorities and conflicting interests were reconciled and reflected in the indicators evolved.

After the standardization and homogenization of the C&I sets, regular training workshops were organized at all the eight project sites (including the study site in the present paper), and the JFMC members were trained in monitoring and evaluation of indicators. Though locally available instruments (a metre tape, scale, ropes, callipers, standard volume cones and cylinders, etc.) were used in monitoring and evaluation of the people's indicators, the rigour and systematic approaches of site-specific measurements were not compromised under any circumstances. Through appointing a local resource person (usually a literate youth from the village) to conduct these periodic monitoring and evaluation exercises, the JFMC maintained an "evaluation register" that would record crucial forest data about the site-specific indicators, which would then be communicated via postal mails to the project cell situated at the Indian Institute of Forest Management, Bhopal.

Thus, a site-specific database and an up-to-date management information system (MIS) of each of the 8 sites and 40 JFMCs were established. These data are being regularly updated and pooled into the national level forest management MIS that contains the indicators of the base set (i.e. the standard C&I of the B-I Process), and the sustainability of forest resources at these sites is being regularly evaluated and monitored.

People's participation in evaluation of climate change

The following findings were drawn from the study:

- Through the project activities, the communities are now adequately aware of the short and long-term benefits of sustainable forestry in mitigating climate change and ensuring a sustainable livelihood. Further inputs, in the form of material resources and skill-based competency trainings, need to be imparted to the communities with respect to mapping of carbon flows and prevention of leakages. Comprehensive training programmes need to be organized for sensitizing the communities and the forest department staff about these issues.
- Since there is no available research data on the sustainable harvesting limits for most of the fuelwood and NWFP species, the communities were unaware of the optimum quantity that could be harvested without affecting the sustainability of the species. A comprehensive research project on determining the sustainable harvesting limits of fuelwood and NWFPs needs to be carried out in this regard.
- Since no certification has ever been attempted at the study sites, the forest department staff and the communities were not aware of the procedures for obtaining forest and forest products' certification. High costs are involved in obtaining certification through internationally accredited certification agencies such as Forest Stewardship Council (FSC) certification and Smartwood. This makes

it difficult for smaller producers, collectors and communities to get their forests and products certified. Hence, a site-specific set of standards needs to be evolved through involvement of all the actors. (The C&I template being used by the ITTO-funded project may well serve as a starting point).

- Even though the benefit-sharing mechanisms of accrued income through sale of fuelwood and NWFPs among the primary collectors have been clearly spelled out in the forest policy framework, little is being practically carried out in the field. Hence, the government (especially the forest department) should ensure that the primary collectors benefit, and that their motivation for helping in monitoring and evaluation of forest resources is consistently maintained. Certification can bring about better accountability and keener understanding among the involved actors (especially forest department and the communities) regarding their rights and duties. Since the forests are common property resource, community level conflicts need to be adequately addressed in order to avoid the tragedy of the commons.
- During the village-level surveys, it was found that, on average, fuelwood and NWFPs contributed to nearly 40 per cent of annual income of the communities. Generally, these products were sold to local middlemen, who paid back a paltry sum. There is a huge potential for streamlining the existing market channels so that the communities get better prices. Hence, certification of fuelwood and NWFPs would provide better markets and higher profits to the communities.
- The communities lacked technical knowledge and skills required for assessing carbon stocks, and financial intricacies of carbon trading. Hence, there is an urgent need to conduct baseline studies for measuring carbon flows and sink capacities in these forest areas. A pilot carbon-monitoring station can also be set up through joint collaboration of a research institution (prospective institution: Regional Research Laboratory, Bhopal) and the forest department so that the accurate baselines could be validated vis-à-vis people's indicators and the carbon stocks could be monitored periodically. Appropriate trainings could be suitably imparted to the local communities, who could carry out the project activities even after completion of the project.

5. Lessons and Recommendations

5.1 General Lessons from the Cases

The key premise of the REDD+ initiatives is to reduce carbon emissions, which is one of basic responses towards the climate change problem. However, if we think about the case of developing countries in Asia, then the adaptation of vulnerable communities need to be considered first or at least simultaneously. From this perspective, the REDD+ and CFM initiatives could be a very significant option to attend to both the livelihood issues concerning communities and the mitigation strategy of the climate change problem. If CFM becomes a good platform to implement the REDD+ scheme, it not only reduces the carbon emissions, but also enhances the benefits, the capacity of the local institutions, institutional access and the access to the forest market (at least to the carbon market), as well as their decision-making space; all these benefits are related to the adaptive capacity of the marginalized forest-dependent community. There are a series of local challenges that needs to be addressed for REDD+ initiatives to have a long-term positive impact on the forest and the livelihood of local communities.

Communities around Asia depend heavily on forests for their livelihoods. They have traditionally managed their forests, in many cases interacting with governments and private firms, with different degrees of success in the local governance. A series of factors concerning local governance have been identified in the cases as potential opportunities and challenges for any REDD+-like initiatives. The reward of carbon offsets is very appealing because it can bring significant monetary and other benefits to the individuals and communities in a *win-win situation* (ideally), by both tackling deforestation and bringing income to mostly poor communities. However, there is less debate whether and how it can bring those benefits or not, because many of the questions and much of the complexities are now about how REDD+ can become a reality. The literature on REDD and REDD+ indicates that the scheme has the potential to enhance livelihood benefits, and in the long term to enhance the adaptive capacity of marginalized communities as well as their ownership and management of their natural resources.

Clarification of the role of forest stocks in international regimes

Forests are critical not only for mitigating climate change but also for biodiversity conservation. Through biodiversity conservation, genetic resources are kept for current and future uses, communities obtain their source of livelihood and economic activities are driven in many countries. Thus, forest conservation is an important object of discussion in many forums, ranging from the FAO and ITTO, to UNFCCC and the Convention on Biological Diversity (CBD). However, many valuable forest resources are under increasing threat of deforestation and forest degradation, despite the global importance of forest conservation.

Conservation forests require management intervention to remove the drivers of deforestation and degradation. Avoiding deforestation and degradation thus involves the cost of removing illegal activities, the establishment of sufficient incentives for communities and governments to maintain conservation forests, and the building of sufficient institutional capacity. According to James and Green (1999), the average budgets for protected areas in developing countries are only 30 per cent of the minimum

amount required for conserving those areas properly. Although no budget figures are available for MBNP in Indonesia, this appears to be the case in Meru Betiri as well, since the park authorities clearly have been unable to halt illegal activity.

The Bali Action Plan recognized the conservation of forest carbon stocks through REDD+ as a policy option for enhanced forest-based climate change mitigation. Now, more than ever, the management of conservation forests needs to be understood in the context of REDD+ in order to establish more positive incentives for conservation. Since the synergy between UNFCCC and CBD goals has been increasingly recognized, there is an obvious need to provide incentives for the conservation of forest carbon stocks and biodiversity in conservation forests. On the other hand, those mechanisms have to take into consideration the livelihood of communities that depend on the forests. Linking the governance of communities with governance of different international regimes will be a determinant of the long-term success of both local and global goals. Nevertheless, we are still far from a coherent global regime for forests, which leaves several uncertainties in the future of the different REDD+ initiatives in the long term, as well as how communities should be better linked to those regimes.

Supportive local government institutions to connect local and global governance

Local government has a role in facilitating forest conservation efforts, in both technical and administrative aspects. However, the weak capacity of local governments has been a problem in many CFM activities and climate change mitigation regimes (Pinto and Puppim de Oliveira, 2008). Many issues in the implementation of community-based REDD+ initiatives are linked with local capacity. Local communities must have comprehensive systems for dealing with ecosystem services. The government, together with key stakeholders, needs to develop a system that compensates forest communities for the management of a range of ecosystem services.

Strengthening legal and policy frameworks and institutional arrangements to facilitate the sustainable participation of local communities is essential to the success of REDD+. There is also an obvious need for supportive policies for full and effective participation, along with strengthening of local institutions. For example, under Indonesian law, a park is government property, and its management is handled by the government through the park authorities, which comprise fewer than 100 people, of whom 35 are forest guards in the case of MBNP. This is far from enough to protect 58,000 ha. Often, government efforts aim to replace functioning local management regimes. More consideration should be given to the establishment of community-based carbon and biodiversity monitoring systems that will help in the enforcement of the rules in the park and will contribute to the reduction of illegal activities in MBNP.

Conservation policy should also be adjusted to meet the needs of the local people. In the Meru Betiri case, for example, the rights to the trees planted by local communities on MBNP land needs to be reviewed. In 1999, an agreement was signed between MBNP and local communities around the buffer zones, granting farmers willing to participate in the rehabilitation programme the right to use degraded land. Thirteen years later, the outcomes of the reforestation movement have been disappointing, due to MBNP

regulations that oblige farmers to ask permission to grow cash crops such as cocoa, coffee and *seigon*. The park conservation staff have stood firm, and this in turn has reduced farmers' motivation and incentive to cooperate with the programme.

Linking carbon management with local practices and economic activities

To advance community-based forest carbon and biodiversity monitoring systems in conservation forests, there is a growing need to develop collaborative partnerships and decision-making. A local community forest forum should be established to allow government representatives, community members, researchers, local NGO members and others to meet regularly, to explore strategies and develop action plans for conservation and restoration.

External efforts aiming reduction in carbon emissions have to take into consideration communities' dependence on certain forest products that may clash with maximization of carbon reduction in the short term. Certain traditional practices should be allowed to continue, to avoid cases where communities continue such practices informally, which can pose some risks. For example, as with the case of India, many communities use charcoal as their primary source of energy, and need to exploit the wood for supplying their energy needs. Even though this practice may not be totally compatible with carbon-reduction optimization in the short term, fuelwood is fundamental to communities' livelihood, and if communities shift to other sources of energy (e.g. oil or gas) they may emit more carbon than if they continued the sustainable use of charcoal.

A mechanism to support conservation and sustainable use of the existing forest area can be developed involving the private sector, and can help to provide the incentives for restoration efforts. For example, a local NGO has devised an incentive programme by grouping the farmers in some villages into several groups based on the progress of rehabilitation on their land, and given them financial rewards in the form of discount cards that can be used at designated grocery shops.

A better understanding of the potential risks from degraded forests has also proven to be effective in motivating farmers to work harder to rehabilitate the degraded part of the forest. This is evident in the case in Indonesia, where one village, located at a low altitude, suffered from flooding in the past. Although the farmers have not been receiving any assistance from the local NGO or financial support, their reforestation performance has been better than that of other villages because the people know that planting the trees will give them protection from future flooding.

In the case of Indonesia, in light of the importance of providing sustainable livelihoods, the MBNP management – together with local NGOs, business players and local legislative institutions – should continue to develop alternative livelihoods for the community that can reduce economic dependency on expansive farming and the gathering of forest products. Several home industries have been introduced in some buffer zone communities. These include mushroom cultivation, which was initiated using loans from an ongoing REDD+ demonstration activity, and food processing, in which a community, using a grant from Europe, collectively purchased a chip-making machine to process jackfruit, which is abundant locally. A local NGO has also been working with some farmers to grow medicinal herbs in the shady areas in the rehabilitation zone. The

park's conservation staff have also been providing training and assistance to members of communities interested in developing ecotourism, mainly in the southern part of the park along the beach where sea turtles return to lay their eggs. Organic catfish farming is another alternative economic activity in the offing.

Establishing community benefit-sharing in conservation forests

Transparent and equitable distribution of carbon benefits among the government, the local community and the project developer is a major concern of REDD+ policy development. It is a major challenge to find ways of ensuring that local communities will continue to support the conservation of biodiversity. Local communities are dependent on species diversity and ecosystem services of natural forests to maintain their way of life, and they also play a crucial role in the sustainable use and conservation of forests. It is therefore essential to protect biodiversity, mitigate climate change, and safeguard the interests of local communities.

According to the Indonesian Ministry of Forestry Decree Number: P.36/Menhut-II/2009 (Ministry of Forestry, 2009) "Regarding Procedures for Licensing of Commercial Utilization of Carbon Sequestration and/or Storage in Production and Protected Forests", the distribution in protection forests has been tentatively estimated at 50 per cent for the government, 20 per cent for the local community and 30 per cent for the project developer. The proportion for the community is subject to review under the ongoing development of national REDD+ policy. Since this decree did not include any estimations of the distribution in conservation forests, an equitable benefit-sharing system is advisable. The fact that many local communities have lost their tenurial rights because of the establishment of national parks should be given consideration. In the case of MBNP, about 3,500 locals are currently residing inside the park since they have been living there since before its establishment.

Land tenure, forest and carbon rights arrangements

Land tenure is a key issue we need to take account before REDD+ is scaled up. If tenure is not clarified to benefit the local people, the future of both REDD+ and the forest communities will be undermined in a number of ways. It is evident that developing countries worldwide are facing the challenges of land rights and resource rights. Carbon rights are an issue that is far from this scenario. Experience tell us that, as the value of standing forests or forest land increases, powerful actors tend to capture those values to the detriment of the less powerful forest-dependent poor. If REDD or REDD+ increases value, it may also increase conflicts as claimants stand to gain more by winning control (Cotula and Mayers 2009). Some cases, such as the case of Bangladesh in this study, present a skewed distribution of property rights, which can pose threats to the success of any REDD initiatives if those property rights issues are not equated.

However, in recent decades the changes in forest governance from state-centric to peoples-centric, though somewhat limited and partial, are attempts to recognize the tenure rights of forest peoples. Between 2002 and 2008, the area of the global forest estate administered by governments decreased from 80.3 per cent to 74.3 per cent in 25 of the world's 30 most forested countries (Sunderlin et al., 2008). In this devolution of forest governance initiatives, poor and weak downward accountability and institutional

capacity, along with dominance of the local elite, remain as key features. The devolved forest rights are also limited to management. Management rights do not extend to land. While forest products belong to the village community, ownership of the trees and of the land usually remains with the state, which may unilaterally terminate the management agreement and may reallocate rights over third parties. This seriously undermines the security of local rights under community forest management arrangements (Cotula and Mayers, 2009). The less powerful claimants, such as indigenous or other marginalized groups, often lose out (Toni, 2006; Cronkleton et al., 2009), especially when there is a history of conflicts over resources and land rights.

The relation of REDD+, CFM and land tenure is complex. We can say that the relation between REDD+ and CFM is conditional, and one of the key conditional aspects is land tenure and resource-tenure security. This land-tenure security challenge gives this relation a double-edged sword dimension. If the tenure security problem can be solved, then it can bring a wider opportunity both for the forest communities and REDD+ initiatives. The REDD benefits can enhance the adaptive capacity of the forest communities in a number of ways, and the people of the community will have the incentives to achieve the REDD+ goal. But if the tenure situation remains the same or worsens, then it would not only exclude the marginalized communities, but would create conflicts, undermine their adaptive capacities and exaggerate the vulnerabilities and other risks. Therefore, the land-tenure complexity remains one of the key determinant factors in the REDD–CFM relation, as well as the outcome of CFM in reducing carbon emission. Thus, understanding the risks and challenges of the REDD regime in regard to CFM’s potential role in reducing carbon emissions has great importance. In this context, we can say the scenario is not challenging rather than pessimistic. This challenging situation can be the driver for better forest governance and resource rights for marginalized communities.

5.2 The Monitoring, Reporting and Verification of Governance is as Important as the Governance of Monitoring, Reporting and Verification

Climate change related negotiation texts recognize the need to engage indigenous peoples and local communities, and develop guidance for their involvement in monitoring and reporting (Bleaney et al., 2010). Asia-Pacific’s local communities and indigenous peoples undertake many of the traditional (and more sustainable) CFM practices in the region (RECOFT, 2010). REDD+ will carry a large burden of responsibility for ensuring the development of sustainable CFM in the Asia-Pacific region (RECOFT, 2010). The May 2010 Norway pledge of USD 1 billion to assist Indonesia to reduce its GHG emissions from deforestation and forest degradation is a key element in ensuring positive outcomes for forests and peoples in the region. Indigenous peoples and local communities are expected to be involved in the planning, implementation and institutional management of the funds allocated for REDD+ in Indonesia (Royal Norwegian Embassy, 2010). However, given the lack of clarity over land tenure, and the lack of explicit recognition of indigenous peoples’ rights, doubts have been raised over the credibility of these claims (Lang, 2010).

Efforts need to be given to monitoring, reporting and verifying the participation of all stakeholders and rights holders across the region, as well as how monies are spent in relation to carbon-accounting activities. The provision of resources – whether they be to provide economic, technical or structural support for participation – is fundamental to

the development of policy capable of effectively resolving ecological problems (Mason, 1999). Effective protocols are also required for effective dispute settlement. This is a universal problem in global environmental agreements. Intergovernmental processes are also widely criticized for their failure to settle disputes effectively. Dispute-resolution mechanisms are essential for handling conflicts and complaints over procedure when they occur within negotiations (Van Vliet, 1993; Meidinger, 2006; Ostrom, 1990). Two of the most significant contributors to governance failure are inability to resolve conflicts, and the breakdown of engagement and negotiation processes (Stoker, 2000). Interaction should be less formal and more collaborative, while decision-making, when it occurs, should be built around consensus rather than majority rule (Susskind, 2004). Without changing existing institutional arrangements in favour of more productive interaction built around consensus, global environmental negotiations will continue to produce inadequate results.

REFERENCES

- Agrawal, A., 2001. Common property institutions and sustainable governance of resources. *World Development*, 29(10), pp.1649–1672.
- Agrawal, A. and Angelsen, A., 2009. Using community forest management to achieve REDD+ goals. In: A. Angelsen, M. Brockhaus, M. Kanninen, E. Sills, W.D. Sunderlin, and S. Wertz-Kanounnikoff, eds. 2009. *Realising REDD+: National strategy and policy options*. Bogor: CIFOR.
- Angelsen, A. ed., 2009. *Moving Ahead With REDD: Issues, Options and Implications*. Bogor: CIFOR.
- Angelsen, A., Brown, S., Loisel, C., Peskett, L., Streck, C. and Zarin, D., 2009. *Reducing Emissions from Deforestation and Forest Degradation (REDD): An Options Assessment Report*. Bogor: CIFOR. Available at: <http://www.redd-oar.org/links/REDD-OAR_en.pdf> [Accessed 18 May 2010].
- Angelsen, A. and Kaimowitz, D., 1999. Rethinking the causes of deforestation: lessons from economic models. *World Bank Research Observer*, 14(1), pp.73–98.
- Arnstein, S.R., 1969. A Ladder of Citizen Participation. *JAIP*, 35(4), pp.216–224.
- Arts, B., 2006. Non-state actors in global governance: new arrangements beyond the state. In: M. Koenig-Archibugi and M. Zürn, eds. 2006. *New modes of governance in the global system: exploring publicness, delegation and inclusiveness*. Houndmills: Palgrave Macmillan, pp.177–200.
- Barnett, J., 2010. Adapting to climate change: three key challenges for research and policy – an editorial essay. *Wiley interdisciplinary reviews: climate change*, 1(3), pp.314–317.
- Bass, S., Dubois, O., Moura Costa, P., Pinard, M., Tipper, R. and Wilson, C., 2000. Rural Livelihoods and Carbon Management. *IIED Natural Resources Issues Paper No.1*. London: International Institute for Environment and Development.
- Bleaney, A., Peskett, L. and Mwayafu, D., 2010. REDD+ After Copenhagen: What Does it Mean on the Ground? *REDD-NET COP 15 Briefing*, January 2010. Available at: <<http://6823165678770790248-a-redd-net-org-s-sites.googlegroups.com/a/redd-net.org/site/files/COP15outcome-webfinal.pdf>> [Accessed 20 May 2010].
- Blom, B., Sunderland, T., and Murdiyarto, D., 2010. Getting REDD to work locally: lessons learned from integrated conservation and development projects. *Environmental Science and Policy*, 13(2), pp.164–172.
- Cadman, T., 2011. *Quality and legitimacy of global governance: case lessons from forestry*. Houndmills: Palgrave Macmillan.

Carbon Positive, 2010. *Glossary*. Available at: <<http://www.carbonpositive.net/viewarticle.aspx?articleID=44>> [Accessed 1 October 2010].

Cashore, B., Auld, G. and Newsom, D., 2004. *Governing Through Markets: Forest Certification and the Emergence of Non-State Authority*. London: Yale University Press.

Census, 2001. *Provisional demographic figures on India*. Available at: <<http://www.censusindia.net>>.

CIFOR, n.d. *Simply REDD: CIFOR's Guide to Forests, Climate Change and REDD*. Bogor: CIFOR. Available at: <http://www.cifor.org/publications/pdf_files/media/MediaGuide_REDD.pdf> [Accessed 1 October 2010].

Climate Funds Update, n.d. *Forest Investment program*. Available at: <<http://www.climatefundsupdate.org/listing/forest-investment-program>> [Accessed 1 October 2010].

Climate Lab, 2010. *Technology transfer*. Available at: <http://climatelab.org/technology_transfer> [Accessed 24 November 2012].

Corbera, E. and Schroeder, H., 2011. Governing and implementing REDD+. *Environmental Science and Policy*, 14(2), pp.89–99.

Cotula, L. and Mayers, J., 2009. Tenure in REDD – Start-point or afterthought? *Natural Resource Issues* No. 15. London: International Institute for Environment and Development.

Cronkleton, P., Pacheco, P., Ibarguen, R. and Albornoz, M.A., 2009. *Reformas en la tenencia de la tierra y los bosques: la gestión communal en las tierras bajas de Bolivia*. Bogor: CIFOR and La Paz: Centro de Estudios para el Desarrollo Laboral y Agrario.

DESA (Department of Economic and Social Affairs), 2004. United Nations Forum on Forests. Global Partnership: For Forests For People. *Secretariat of the United Nations Forum on Forests Fact Sheet 1*. Available at: <<http://www.un.org/esa/forests/pdf/factsheet.pdf>> [Accessed 1 October 2010].

FAO, 2010. *Global forest resources assessment 2010*. Available at: <<http://foris.fao.org/static/data/fra2010/KeyFindings-en.pdf>> [Accessed 20 May 2010].

FAO, 1997. *Yearbook of Forest Products 1997*. Rome: FAO.

Fiorino, D., 1996. Environmental Policy and the Participation Gap. In: W.M. Lafferty and J. Meadowcroft, eds. 1996. *Democracy and the Environment: Problems and Prospects*. Cheltenham and Lyme: Edward Elgar.

Forest Carbon Portal, 2010. *Multilateral Interim REDD+ Partnership Established In Oslo*. Available at: <<http://www.forestcarbonportal.com/resource/interim-redd-partnership-established-oslo>> [Accessed 2 October 2010].

Fox, J., Bushley, B.R., Miles, W.B. and Quazi, S.A., 2009. *Connecting communities and conservation: Collaborative management of protected areas in Bangladesh*. Honolulu: East-West Center and Dhaka: Nishorgo Support Project, Bangladesh Forest Department, pp.247–282.

Global Witness, 2009. *Building Confidence in REDD: Monitoring Beyond Carbon*. London: Global Witness.

Gol (Government of India), 1990. *Government resolution of Joint Forest Management*. New Delhi: Ministry of Environment and Forests, Government of India.

Griscom, B., Ganz, D., Virgilio, N., Price, F., Hayward, J., Cortez, R., Dodge, G., Hurd, J., Lowenstein, F.L. and Stanley, B., 2009. *The Hidden Frontier of Forest Degradation: A Review of the Science, Policy and Practice of Reducing Degradation Emissions*. Arlington: The Nature Conservancy. Available at: <http://www.rainforest-alliance.org/resources/documents/hidden_degradation.pdf> [Accessed 21 June 2010].

Haas, P., 2002. UN conferences and constructivist governance of the environment. *Global Governance*, 8(1), pp.73–91.

IISD (International Institute for Sustainable Development), 2009. *GEF STAP Considers REDD, Forest Conservation and Sustainable Forest Management*. Available at: <<http://climate-l.org/news/gef-stap-considers-redd-forest-conservation-and-sustainable-forest-management/>> [Accessed 1 October 2010].

IRG (International Resource Group), 2006. *Management Plans for Chunoti Wildlife Sanctuary*. Dhaka: Nishorgo Support Project.

IRG (International Resource Group), n.d. *Operationalization of co-management in protected areas*. Dhaka: Nishorgo Support Project.

ITTO, 2011. *Status of Tropical Forest Management 2011*. Available at: <http://www.itto.int/news_releases/id=2663>.

ITTO, 2008. *Tropical Forest Conservation for Reducing Emissions from Deforestation and Forest Degradation and Enhancing Carbon Stocks in Meru Betiri National Park, Indonesia*. Project Document: PD 519/08 Rev. 1 (F).

ITTO, 2005. *Status of Tropical Forest Management 2005*. Available at: <http://www.itto.int/direct/topics/topics_pdf_download/topics_id=28620000&no=1&disp=inline>.

IUCN, 2010. *REDD+: Scope and Options for the Role of Forests in Climate Change Mitigation Strategies*. Available at: <http://cmsdata.iucn.org/downloads/redd_scope_english.pdf> [Accessed 21 May 2010].

Jadhav, Y.D., 2003. Sustainable livelihoods through certification of non-wood forest products: a case study of tropical forests in central India. Paper presented at *International Conference on Rural Livelihoods, Forest and Biodiversity*. Bonn, Germany 19–23 May 2003.

- James, A. and Green, M., 1999. *A Global Review of Protected Area Budgets and Staffing*. World Conservation Monitoring Center – World Conservation Press. Available at: <http://www.unep-wcmc.org/medialibrary/2010/09/10/93aac99d/Global_Review_Protected_Area_BudgBud_Staff.pdf>.
- Karky, B.S. and Banskota, K., 2009. Reducing Emissions from Nepal's Community Managed Forests: Discussion for COP 14. *Poznan Journal of Forest and Livelihood*, 8(1), pp.33–36.
- Karsenty, A., 2009. What the (Carbon) Market Cannot Do..... *Perspective 1*. Available at: <http://www.rightsandresources.org/documents/files/doc_1374.pdf>.
- Kjaer, A.M., 2004. *Governance*. Cambridge, MA: Polity Press.
- Kooiman, J., 1993a. Social-Political Governance: Introduction. In: J. Kooiman, ed. 1993. *Modern Governance: New Government-Society Interactions*. London: SAGE Publications, pp.1–8.
- Kooiman, J., 1993b. Findings, Speculations and Recommendations. In: J. Kooiman, ed. 1993. *Modern Governance: New Government-Society Interactions*. London: SAGE, pp.250–251.
- Kwon, B., 2006. Diet for a warm planet. *Columbia Magazine* (Summer), pp.22–27.
- Landell-Mills, N. and Porras, I.T., 2002. Silver bullet or fools' gold? A global review of markets for forest environmental services and their impact on the poor. *Instruments for Sustainable Private Sector Forestry Series*. London: International Institute for Environment and Development.
- Lang, C., 2010. *Norway-Indonesia Forest deal: US\$1 billion dollars worth of continued deforestation?* Available at: <<http://www.redd-monitor.org/2010/05/28/norway-indonesia-forest-deal-us1-billion-dollars-worth-of-continued-deforestation/>> [Accessed 7 October 2010].
- Letter of Intent, 2010. *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."* Available at: <http://www.norway.or.id/PageFiles/458508/Letter_of_Intent_Norway_Indonesia_26_May_2010.pdf>.
- Macdonald, K., Marshall, S. and Pinto, S., eds., 2012. *New Visions for Market Governance: Crisis and Renewal*. Oxon: Routledge.
- Margoluis, R. and Salfsky, N., 1998. *Measures of success: Designing, managing and monitoring conservation and development projects*. Washington, DC: Island Press.
- Mason, M., 1999. *Environmental Democracy*. New York: St Martin's Press.
- Meidinger, E., 2006. The Administrative Law of Global Private-public Regulation: The Case of Forestry. *The European Journal of International Law*, 17(1), pp.47–87.

- Ministry of Forestry (The Republic of Indonesia), 2009. *Decree Number: P. 36/Menhut-III/2009*. Available at: <http://www.dephut.go.id/files/P36_09.pdf>.
- Ministry of Forestry (The Republic of Indonesia), 1997. Keputusan Menteri Kehutanan No: 277/Kpts-VI/1997 (Minister of Forestry Decree No. 277/Kpts-VI/1997).
- MoEF (Ministry of Environment and Forests, India), 2000. Available at: <<http://www.envfor.nic.in>>
- Okereke, C., 2010. Climate Justice and the International Regime. *WIREs Climate Change* 1 (May/June), pp.462–474.
- Ostrom, E., 2009. A general framework for analyzing sustainability of socioecological systems. *Science*, 325(5939), pp.419–422.
- Ostrom, E., 2007. A diagnostic approach for going beyond panaceas. *Proceedings of the National Academy of Sciences*, 104(39), pp.15181–15187.
- Ostrom, E., 1990. *Governing the commons: the evolution of institutions for collective action*. New York: Cambridge University Press.
- Ostrom, E., Burger, J., Field, C.B., Norgaard, R.B. and Policansky, D., 1999. Revisiting the Commons: Local Lessons, Global Challenges. *Science*, 284(5412), pp.278–82.
- Overdevest, C., 2004. Codes of Conduct and Standard Setting in the Forest Sector: Constructing Markets for Democracy? *Relations Industrielles/Industrial Relations*, 59(1), pp.172–197.
- Parker, C., Mitchell, A., Trivedi, M. and Mardas, N., 2009. *The Little REDD+ Book*. Oxford: Global Canopy Programme.
- Pinto, R.R. and Puppim de Oliveira, J.A., 2008. Implementation Challenges in Protecting the Global Environmental Commons: The Case of Climate Change Policies in Brazil. *Public Administration and Development*, 28(5), pp.340–350.
- Porras, I.T., Grieg-Gran, M. and Neves, N., 2008. All that glitters: a review of payments for watershed services in developing countries. *Natural Resource Issues No 11*. London: International Institute for Environment and Development.
- Puppim de Oliveira, J.A. ed., 2012. *Green Economy and Good Governance for Sustainable Development: Opportunities, Promises and Concerns*. Tokyo: United Nations University Press.
- Qadim, H.A.S., 2012. *Ekologi Politik Pengelolaam Taman Nasional Meru Betiri (TNMB) Kabupaten Jember dan Kabupaten Banyuwangi Era Reformasi Politik Nasional (The Political Ecology of Meru Betiri National Park Management in the Reform Era)*. Bogor: Institut Pertanian Bogor (Bogor Agriculture Institute).

RECOFT, 2010. *Moving Forward for People and Forests*. Available at: <http://www.recoftc.org/site/fileadmin/docs/publications/The_Grey_Zone/2010/REDD__2010_MovingFINAL.pdf> [Accessed 18 May 2010].

Rosenau, J.N., 2000. Change, Complexity and Governance in a Globalising Space. In: J. Pierre, ed. 2000. *Debating Governance: Authority, Steering and Democracy*. New York: Oxford University Press.

Royal Norwegian Embassy in Jakarta, 2010. *Norway-Indonesia REDD+ Partnership—Frequently Asked Questions*. Available at: <http://www.norway.or.id/Norway_in_Indonesia/Environment/-FAQ-Norway-Indonesia-REDD-Partnership-/> [Accessed 7 October 2010].

RWEDP, 1999. Regional Wood Energy Development Programme in Asia. Woodfuel trade in India. *RWEDP Report No. 57. GCPIRAS/154/NET*. Bangkok: FAO and Bhopal: Indian Institute of Forest Management.

SFR, 2005. *State of Forest Report 2005: Forest Survey of India*. Dehradun: Ministry of Environment & Forests.

Springate-Baginski, O. and Wollenberg, E. eds., 2010. *REDD, forest governance and rural livelihoods: the emerging agenda*. Bogor: CIFOR.

Stoker, G., 2000. The Challenge of Urban Government. In: J. Pierre, ed. 2000. *Debating Governance: Authority, Steering and Democracy*. Oxford: Oxford University Press, pp.91–109.

Streck, C., Gomez-Echeverri, L., Gutman, P., Loisel, C. and Werksman, J., 2010. *REDD+ Institutional Options Assessment: Developing an Efficient, Effective, and Equitable Institutional Framework for REDD+ under the UNFCCC*. Available at: <http://www.redd-oar.org/links/REDD+IOA_en.pdf> [Accessed 21 May 2010].

Sunderlin, W., Hatcher, J. and Liddle, M., 2008. *From exclusion to ownership? Challenges and opportunities in advancing forest tenure reform*. Washington, DC: Rights and Resources Initiative.

Susskind, L., 2004. *Environmental Diplomacy: Negotiating More Effective Global Agreements*. New York: Oxford University Press.

TEEB, 2010. *The Economics of Ecosystems and Biodiversity*. Available at: <<http://www.teebweb.org>> [Accessed 20 October 2011].

Thompson, M., Baruah, M., and Carr, E., 2011. Seeing REDD+ as a project of environmental governance. *Environmental Science and Policy*, 14(2), pp.100–110.

Toni, F., 2006. *Gestão florestal na Amazônia brasileira: avanços e obstáculos em um sistema federalista*. Bogor: CIFOR and Ottawa: International Development Research Centre.

UN-REDD, 2010a. *About the UN-REDD Programme*. Available at: <<http://www.un-redd.org/UNREDDProgramme/tabid/583/language/en-US/Default.aspx>> [Accessed 23 March 2010].

UN-REDD, 2010b. *About REDD+*. Available at: <<http://www.un-redd.org/AboutREDD/tabid/582/language/en-US/Default.aspx>> [Accessed 20 May 2010].

Van Vliet, M., 1993. Environmental Regulation of Business: Options and Constraints for Communicative Governance. In: J. Kooiman, ed. 1993. *Modern Governance: New Government Society Interactions*. London: SAGE, pp.105–118.

Warren, M.E., 2002. What can democratic participation mean today? *Political Theory* 30(5), pp.677–701.

White, A. and Martin, A., 2002. *Who Owns the World's Forests? Forest Tenure and Public Forests in Transition*. Washington, DC: Forest Trends and Center for International Environmental Law.

Wunder, S., 2005. Payments for environmental services: some nuts and bolts. *CIFOR Occasional Paper*, No. 42. Bogor; CIFOR.

Wunder, S., 2009. Can payments for environmental services reduce deforestation and forest degradation? In: A. Angelsen, M. Brockhaus, M. Kanninen, E. Sills, W.D. Sunderlin and S. Wertz-Kanounnikoff, eds. 2009. *Realising REDD+: National strategy and policy options*. Bogor: CIFOR.

Young, O.R., 2005. Hitting the mark: why are some environmental agreements more effective than others? In: D. Zaelke, D. Kainaru and E. Kružíková, eds. 2005. *Making Law Work: Environmental Compliance & Sustainable Development Volume 1*. London: Cameron May, pp.187–200.

UNU-IAS Policy Report

Governing the Forests: An Institutional Analysis of REDD+ and Community Forest Management in Asia

Jose Puppim de Oliveira
Tim Cadman
Hwan Ok Ma

Tek Maraseni
Anar Koli
Yogesh D. Jadhav
Dede Prabowo

UNU-IAS, Japan
Griffith University, Australia
The International Tropical Timber
Organization (ITTO), Japan
The University of Southern Queensland, Australia
University of Tsukuba, Japan
Barli Development Institute for Rural Women, India
United Nations University Institute for
Sustainability and Peace (UNU-ISP), Japan

REDD+ has become an important component in the discussions on climate change and forest governance, but there is further need to understand the linkages with local governance and the challenges for its implementation. This joint report will serve as a useful reference for policymakers, professionals and practitioners as they work to promote REDD+ in ways that tackle climate change and biodiversity loss but also respect concerns and listen to the voice of local stakeholders.



**UNITED NATIONS
UNIVERSITY**

UNU-IAS

Institute of Advanced Studies

United Nations University
Institute of Advanced Studies
6F, International Organizations Center
Pacifico-Yokohama, 1-1-1 Minato Mirai
Nishi-ku, Yokohama 220-8520, Japan

Tel +81 45 221 2300
Fax +81 45 221 2302
Email unuias@ias.unu.edu
URL <http://www.ias.unu.edu>



International Tropical Timber Organization
International Organizations Center, 5th Floor
Pacifico-Yokohama 1-1-1, Minato-Mirai,
Nishi-ku, Yokohama 220-0012, Japan

Tel +81 45 223 1110
Fax +81 45 223 1111
Email itto@itto.int
URL <http://www.itto.int/>