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**CONSERVING BIODIVERSITY AND IMPROVING HUMAN LIVELIHOODS  
THROUGH INTERACTION BETWEEN PUBLIC REGULATION AND  
FOREST MANAGEMENT CERTIFICATION**

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## Conserving biodiversity and improving human livelihoods through interaction between public regulation and forest management certification

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### Abstract

Various policy instruments have been developed to address environmental, social and economic issues in forest governance. Public governance instruments include command-and-control instruments and policies that influence forests either directly or indirectly. Voluntary instruments by non-state actors include various certification schemes and commodity roundtables. These policy instruments do not work in vacuum but interact throughout the regulatory process, where they can complement, substitute, and antagonize each other. At the same time there are global processes as well as innovations that contribute to changing the forest governance regimes at national level.

In this paper we discuss how the governance regimes in Indonesia, Cameroon, and Peru have evolved to address biodiversity conservation and human livelihoods dependent on forests. We focus on the interaction between certification and public policies but also look at the broader context and what influence it has lent to changes in the forest governance regime. The key questions that we answer are: 1) Has Forest Stewardship Council (FSC) certification improved environmental and social performance in these countries; 2) What are the interactions through which the change has occurred; and 3) What role do micro- and macro-level processes play in the change?

We found that there are three transition paths for certification into current forest governance regimes based on the government support: cooperation, indifference, and competition. The path seems to be determined by macro-political development, trade opportunities, and cultural values as well as actors' willingness to transfer regulatory power. Furthermore, the path is reflected in the interactions between the current forest regulations and certification. Based on our analysis, FSC has improved social and environmental performance in the study countries through different impact pathways, the stakeholder engagement pathway bringing the strongest change in the on-the-ground performance.

**Key words:** economic liberalization; forest governance; legality; sustainable forest management; tropics

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## 1. Introduction

The failure of governments to achieve a binding global forest convention in the 1992 Rio conference led a coalition of environmental, social and business activists to establish the Forest Stewardship Council (FSC) (Humphreys, 2006). Certification was the neoliberal answer to the failure of public policies to protect forest resources as it operates through the market and involves private sector in the standard setting (Auld, Gulbrandsen, & McDermott, 2008; Cashore, Auld, & Newsom, 2004). Indeed, it was envisioned that certification could act as a substitute for missing or inadequate public regulation (Henson & Humphrey, 2010), ensure market access for certified products in markets with high environmental awareness, and increase environmental and social sustainability in commodity trade (Elliott, 2000; Potts J et al., 2014).

Substitution is only one of the ways in which public policies and other policy instruments interact. The others are complementarity and antagonism (Lambin et al., 2014). The three types of potential interactions occur at various stages of the regulatory process: agenda setting and negotiation; implementation; and monitoring and enforcement. Two governance systems are complementary when they reinforce each other in the pursuit of a same policy goal. They can target either different actors, e.g. sanctioning those who break the law or bringing incentives to improve management, or different functions, e.g. certification can be used to prove compliance with legal requirements (Steering Committee of the State-of-Knowledge Assessment of Standards and Certification, 2012). Substitution occurs when another governance entity replaces the private-led mechanism through policy learning or norm generation (Lambin, et al., 2014), for example a requirement in a certification standard is adopted into national legislation. The initial private mechanism may maintain an informal role after a formal regulation takes

over its function. Hence, substitution and complementarity may overlap. Finally, when two governance systems are antagonistic they can undermine each other at all stages of the policy process.

Besides the positive indirect effects certification may have on forest legislation, FSC has outlined four possible pathways to achieve positive impacts from “environmentally appropriate, socially beneficial and economically viable management of the world’s forests” (FSC, 2015a): 1) The engagement pathway which highlights engagement with stakeholders and seeks to enhance consensus among them; 2) The standards pathway in which impacts are based on moving from unknown practices to compliance with the standard; 3) The assurance pathway which focuses on the role of third-party verification instead of the assumed law enforcement; and 4) The market pathway that enables market advantages for products that come from responsibly managed forests.

In this paper we discuss how the governance regimes in Indonesia, Cameroon, and Peru have evolved to address biodiversity conservation and human livelihoods dependent on forests. We focus on FSC’s forest stewardship certification as it is the main global certification scheme in the tropical region. The key questions that we answer are: 1) has FSC certification improved environmental and social performance in the study countries through the identified impact pathways; 2) what role do micro- and macro-level processes play in the change; and 3) what are the interactions through which the change has occurred? The paper is structured as follows: first we give an overview of forest governance instruments with global bearing, and then we introduce the multi-level perspective framework. We move on to the country case studies before discussing their results in a broader context.

## 2. International forest governance instruments

### 2.1 Regulatory approaches

One of the earliest governance instruments related to overexploitation of forest resources is the legally binding Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) that entered in force on 1 July 1975. It has been subsequently implemented through national and regional legislation, such as the European Union (EU) Wildlife Trade Regulations in those 182 countries that have decided to become Parties to the convention.

Almost two decades later political commitment to sustainable management of forest resources was firmly put into the international policy agenda at the UN Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil, in 1992. The two main outcomes of the conference for sustainable forest management (SFM) were the non-legally binding authoritative statement of principles for a global consensus on the management, conservation and sustainable development of all types of forests known as ‘Forest Principles’ and Chapter 11 of Agenda 21 ‘Combating Deforestation.’ After the Rio conference an ad-hoc Intergovernmental Panel on Forests (IPF) (1995-1997) was formed followed by another one, the Intergovernmental Forum on Forests (IFF) (1997-2000). They both functioned under the auspices of the United Nations Commission on Sustainable Development (CSD) and provided a platform for further international forest policy development. In 2000 the United Nations Forum on Forests (UNFF) was established by the Economic and Social Council of the United Nations (ECOSOC) to continue to promote “the management, conservation and sustainable development of all types of forests and to strengthen long-term political commitment to this end”. The political commitment has not led to binding international legislation but the Non-Legally Binding Instrument on All

Types of Forests (NLBI) was adopted in the Seventh Session of the UNFF in 28 April 2007 (United Nations, 2007). The NLBI creates a framework for national action and international cooperation to enhance implementation of SFM.

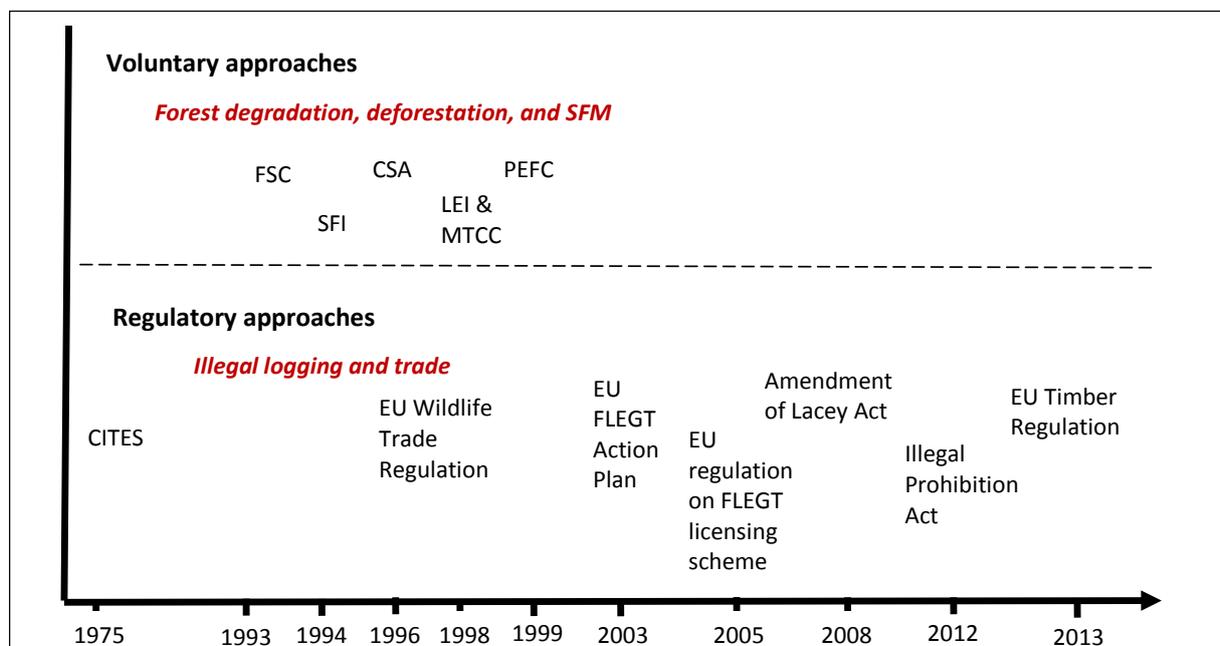
Due to the lack of international binding agreements on forest, apart from CITES, regional and national regulatory approaches that have international bearing have been developed, notably by consumer countries such as the USA (e.g. with the 2008 amendment of the Lacey Act) or the EU (e.g. with the approval of the Forest Law Enforcement, Governance and Trade—FLEGT—Action Plan in 2003 (COM, 2003)). The central focus of these approaches is however on illegal logging and the environmental, social and economic problems associated with it—thus a somewhat ‘reduced’ version of the more encompassing SFM concept discussed in Rio. The EU FLEGT Action Plan sets out actions to prevent the import of illegal wood into the EU, to improve the supply of legal timber and to increase demand for wood coming from responsibly managed forests. As a first step the European Council adopted a regulation on the establishment of a FLEGT licensing scheme for imports of timber into the European Community (EC, 2005). The regulation establishes the FLEGT Voluntary Partnership Agreement (VPA) as the vehicle to implement the licensing scheme between partner countries or regional organisations. The VPA is a legally binding trade agreement between the EU and individual timber exporting countries, which commit to ensure trade only in legal timber and to improve forest governance on their national territories (EC, 2007). The first VPA was ratified by Ghana on 19 March 2010, followed by the Republic of Congo, Cameroon, Central Africa Republic and Liberia in Africa, and Indonesia in South-East Asia. As another component of the FLEGT Action Plan, the EU passed a timber regulation that came into force on 3 March 2013. The EU Timber Regulation prohibits operators in Europe from placing illegally harvested timber and products derived from illegal timber

on the EU market. ‘Legal timber’ is defined as timber that is in compliance with the laws of the countries where it is harvested.

The Lacey Act was originally passed in 1900 to ban trafficking in illegal wildlife in United States of America. It was amended on 22 May 2008 to include a wider variety of prohibited plants and plant products, including timber and paper (Lacey Act amendments of 2008, 2008). This amendment makes the policy capable of combating illegal logging. In addition to the ban on trading plants or plant products harvested in violation of the law, it requires declaration of the scientific name, value, quantity, and country of harvest origin for some products. As it is a fact-based statute with strict liability, no third-party verification (e.g. certification) can be used to prove legality under the Lacey Act. Similarly, Australia aligned its policies with EU and USA by adopting the Illegal Logging Prohibition Act (Illegal Logging Prohibition Act, 2012) on 29 November 2012. The act prohibits importing illegally logged timber and timber products and processing domestically grown raw logs that have been illegally logged.

## 2.2 Certification

The FSC founding assembly was held in 1993 and the FSC was established as a legal entity in 1994 (Figure 1). While the establishment of FSC was largely driven by international environmental NGOs, other mainly producer-focused certification schemes emerged also in the 1990s. The Sustainable Forestry Initiative (SFI) originated in 1994 with American Forest and Paper Association (AF&PA), a major trade group in the USA. The Canadian Standards Association (CSA) Group’s Sustainable Forest Management (SFM) standard was formed in 1996 after the Canadian Council of Forest Ministers produced a national framework of criteria and indicators to help track the nation’s progress in achieving Sustainable Forest Management. In Malaysia certification was initiated by Malaysian government, Forestry Departments of the Sabah and Sarawak states as well as timber associations. The efforts led to the establishment of the Malaysian Timber Certification Council (MTCC) in 1998. In that same year Indonesia also established its own certification scheme under the Indonesian Ecolabelling Institute (LEI). All the national



**Figure 1:** Chronology of voluntary approaches and public regulations including the main issues targeted by them.

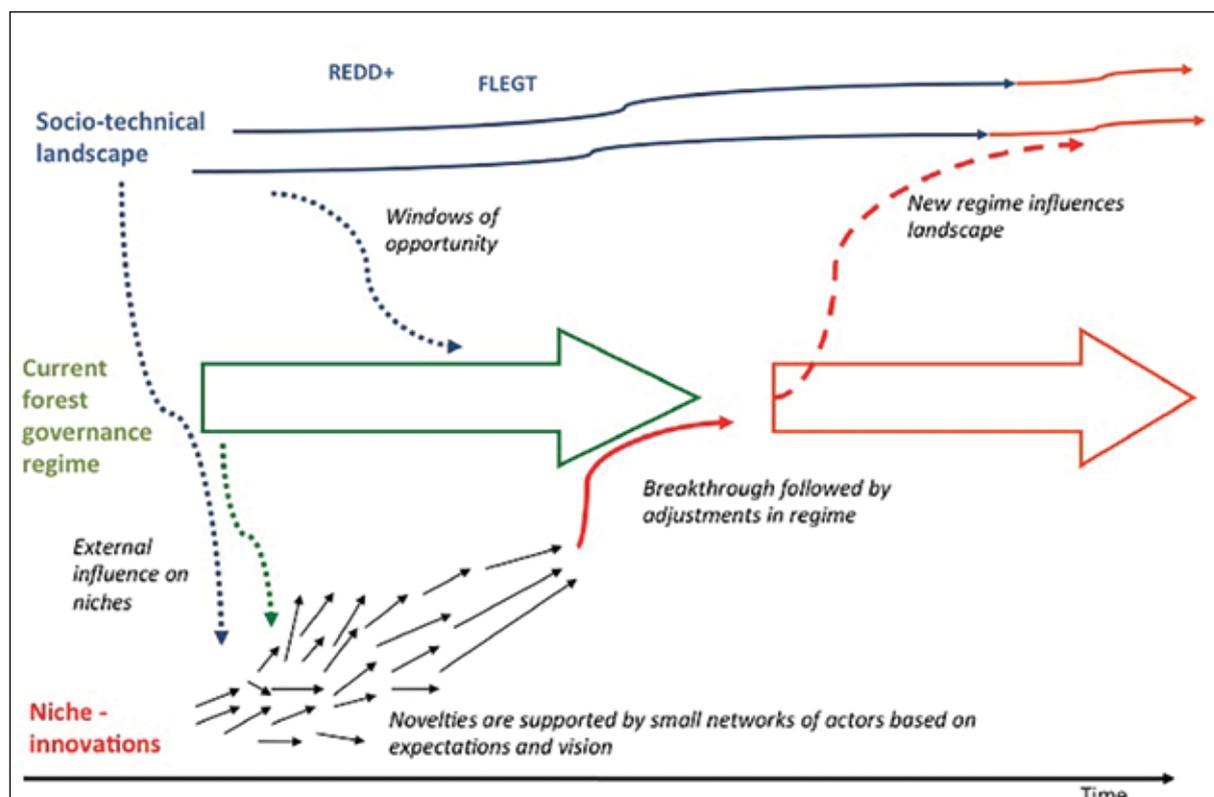
schemes discussed above have been endorsed by the Programme for the Endorsement of Forest Certification (PEFC). PEFC was established in 1999 by national certification organizations as an international umbrella organization providing independent assessment, endorsement and recognition of national forest certification systems.

### 3. Interactions through which forest governance regime evolves

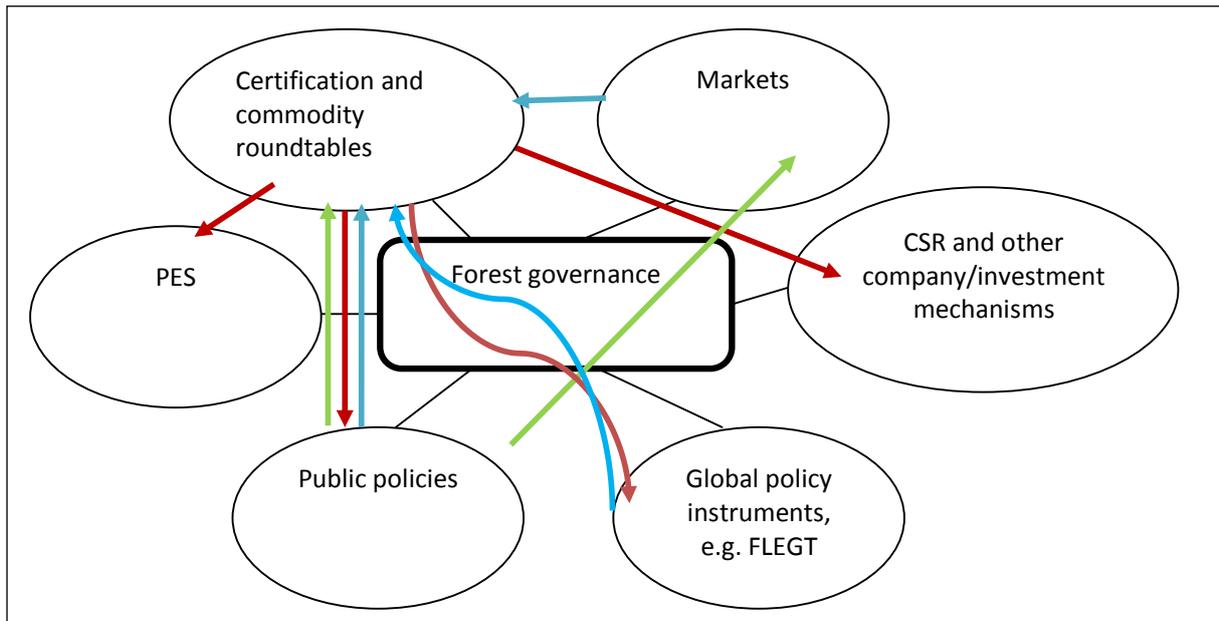
The multi-level perspective (MLP) framework originates from technological transitions scholarship (Rip & Kemp, 1998) but provides a useful framework for understanding sustainability transitions in other contexts as well. It distinguishes three analytical levels: niches (micro-level), regimes (meso-level), and exogenous landscape (macro-level) (Geels & Schot, 2007). Niches are where innovations

occur and new private sector policy instruments are created. Public policies together with voluntary instruments used at the national level form the current forest governance regime in each country. The latter regime is embedded in the socio-technical landscape that includes societal values, political ideologies, macro-political developments, and macro-economics.

Changes in the present governance regime occur through interacting processes within and between different governance levels (Figures 2 and 3). Landscape level developments put pressure on the regime and create windows of opportunity for changes to occur in the regime, for example the pressure to implement SFM, combat deforestation and forest degradation that led to the creation of certification, which has since become part of the established forest governance regime in many countries.



**Figure 2:** The multi-level perspective framework adapted from Geels and Schot (2007). The socio-technical landscape includes macro-political developments whereas niche level is where innovations occur. Changes in the present governance regime occur through interacting processes within and between these levels.



**Figure 3:** Simplified relation between certification and components in forest governance. Red arrows indicate complementarity and green arrows show substitution. Blue arrows note influence from components that may cause change in certification standard.

The following section discusses in more detail the application of the MLP to individual countries in the framework of evolving certification schemes, with a focus on Peru, Indonesia and Cameroon. By using case studies it is possible to detect commonalities as well as differences and draw lessons in moving towards sustainability in global forest resource governance.

## 4. Country case studies

The case studies are based on literature reviews of the forestry issues, forest policies, and certification in the study countries; forest statistics reports provided by government officials; 38 interviews with parties involved directly in forest certification; and the long-term experience of the authors with the forestry sector and forest certification in the study countries.

### 4.1 Development of certification

#### 4.1.1 Peru

The movement for forest certification began in 1992 when the NGO Pronaturaleza was commissioned by government to undertake a consultation process on the feasibility of this sort of initiative. This process was conducted in parallel with the development of the sixth version of the principles and criteria for the sustainable management of

natural tropical forest – a global initiative promoted by the International Tropical Timber Organization (ITTO) – and nationally with initial discussions for the establishment of the forestry and wildlife law (LFFS according to its acronym in Spanish) enacted in 2000 (Arce, 1998). The current national FSC standard-setting process culminated in 2002 when the FSC finally recognized the “Forest Management Certification Standards for Timber Forest Products in the Peruvian Amazon” (Table 1). Additionally, in 2004 the “Standard for Forest Management Aims to Brazil Nuts’ (*Bertholletia excelsa*) Production in Peru” addressed to Brazil nuts concession owners was also approved and recognized by the FSC. Since the approval of these standards, nationwide forests certification has been promoted through various international initiatives such as the Certification and Development of the Forest Sector – CEDEFOR (2002-2006), Forest Certification

Project – CERF (2008-2011) and the Global Forest Timber Network – GFTN (WWF-USAID, 2011). Since 2005 certified areas have increased substantially with more than 845,290 ha of certified forests by February 2015 (Figure 4).

#### 4.1.2 Indonesia

The Government of Indonesia (GoI) has been committed to sustainable forest management (SFM) since the early 1990s, as the follow-up to its commitments to sustainable development adopted from the Rio summit in 1992 and the ITTO 2000 target for SFM. The first implementation effort was the Ministry of Forestry (MoF) decree on the SFM standard for Indonesian forests issued in 1993 (Elliot 1999; Muhtaman and Prasetyo 2006). GoI also collaborated with donor countries (e.g., EU, France, Germany, UK, and USA) to develop models for SFM. At the same time (1995 -1997), the private sector (lead by the Association of Indonesian forest concessionaires – APHI) also developed its own certification standard in response to tropical timber boycott campaigns. Additionally, NGOs supported by the Ministry of Forestry (MoF) developed a national certification standard and established the Indonesian Ecolabelling Institute (Lembaga Ekolabel Indonesia-LEI) in response to the establishment of FSC certification system. The LEI certification system started operating in 1998 (Table 2).

The concerted efforts of government, the private sector, NGOs, and the international community are all considered as the drivers for FSC certification in Indonesia and as a result, some concessions had relatively better forest management practices than others (Ruslandi, 2015a). Having this advantage, these concessions explored potential market opportunities offered by FSC certification. These concessions were in fact the only concessions working toward FSC certification during the early period of FSC certification in Indonesia. Formally, FSC certification started to operate

in Indonesia in 1998, when PT. Xylo Indah Pratama, a community forest located in South Sumatera province, was audited by the FSC-accredited certification body. For the natural forest concessions, PT. Diamond Raya Timber was the first concession audited under the FSC certification scheme in 1999. These two forest management units were finally FSC-certified in 2000 and 2001 (Ruslandi, 2015b).

The early growth of FSC certification in Indonesia was halted by rampant illegal logging and to some extent by decentralization in the forestry sector that did not work properly. In response to illegal logging, the government issued a presidential instruction (no. 4/2005) that made illegal logging a criminal offense. In parallel, the Ministry of Forestry (MoF), in collaboration with NGOs and other civil society actors, was developing a legal verification system (Sistem Verifikasi Legalitas Kayu –SVLK) to address illegal logging and illegal timber trade. A third party audit system similar to the FSC was adopted. At the same time, using the same approach as SVLK, the MoF also developed sustainable forest management certification (Pengelolaan Hutan Produksi Lestari –PHPL) mandatory for forest concessions in Indonesia. SVLK is considered as a part of the PHPL certification. The forest concessions shall seek PHPL certification after their SVLK certificates are expired, which are valid only for three years. In 2013, a Voluntary Partnership Agreement (VPA) with the EU was signed and SVLK is considered as compliance with EU Timber Regulation (EUTR). Under this agreement, all timber products from Indonesia with SVLK label have direct access to the EU market, while other timber/timber products must undergo a due diligence process.

Since the entry of FSC into Indonesia, there have been some initiatives to create interest in FSC certification, such as the forest-market linking programme in 2004 initiated by NGOs, including the Tropical Forest Foundation (TFF), The Forest Trust (TFT), WWF Global

**Table 1.** Entry of forest certification into Peru and actors involved.

Certification scheme	Year of certification scheme's establishment in the country	Public actors involved	Private actors Involved	Investors	Amount invested (US\$)
FSC	2002	INRENA - Institute of Natural Resources (decentralized agency of the MINAGRI - Ministry of Agriculture)	NGOs (Pronaturaleza, SPDA, WWF Peru) National Trade Chamber, Regional Trade Chambers, ADEX	USAID, WWF Netherlands, IDH, European STTC	25 -40 millions*

\* WWF-USAID 2011, Trujillo 2014

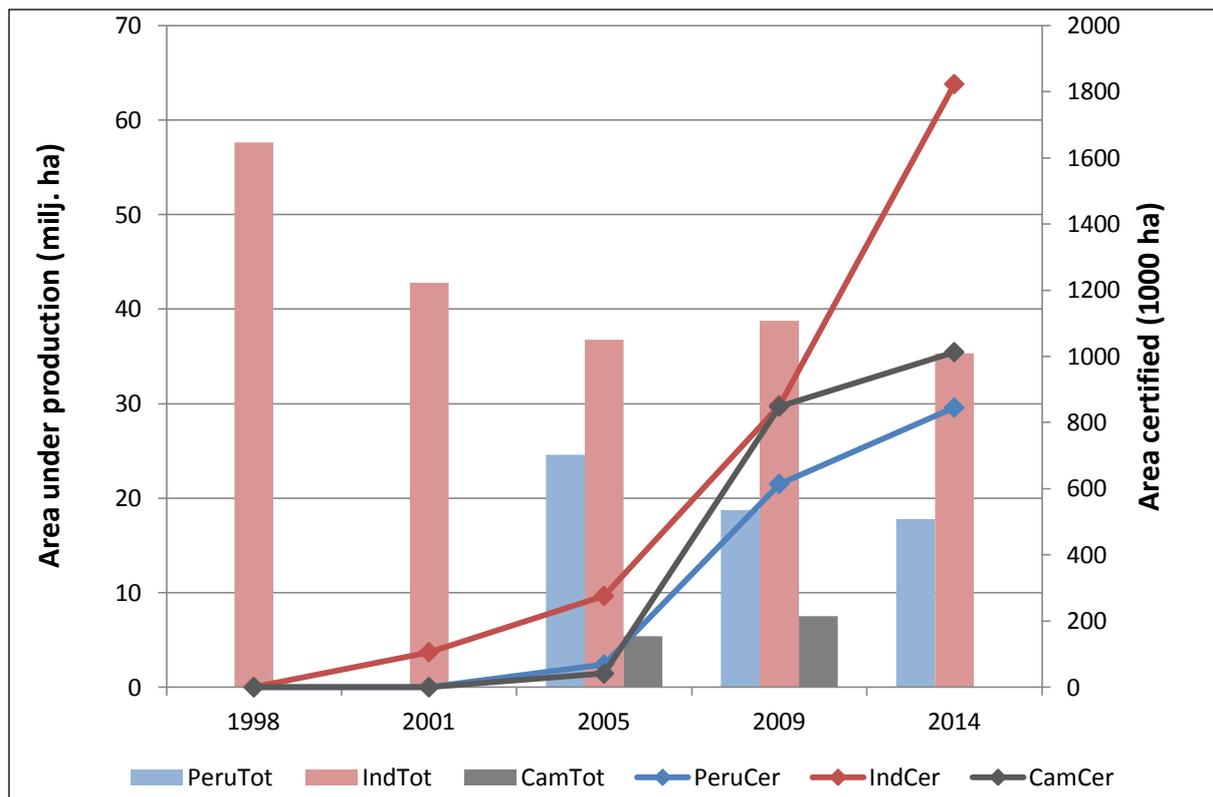
**Table 2.** Certification schemes' entry into Indonesia and actors involved.

Certification scheme	Year of certification scheme's establishment in the country	Public actors involved	Private actors involved	Investors	Amount invested (US \$)*
FSC	1998	Donor countries	NGOs, Civil societies, Forest concessions	Donor countries and organizations, NGOs and private sectors	24,387,565
LEI	1998	Ministry of Forestry	NGOs, Forest concessions, APHI	Ministry of Forestry, Donor countries and organizations, NGOs, private sectors	7,547,623
FLEGT/ VPA Legality verification system (SVLK) and Mandatory certification (PHPL)	2009	Ministry of Forestry	Forest concessions		5,789,470
PEFC	2014		Civil societies, Forest concessions	Civil societies	Not in operation yet

\*) Investment was calculated for forest management improvements and audit costs. No substantial improvements in forest management practices were needed to comply with SVLK/PHPL (Ruslandi, Klassen, Romero, & Putz, 2014). FSC investment includes the costs for concessions engaged in certification even if they have not yet been certified. Number of FMUs engaged in certification was obtained from FSC (2015b), LEI (2015), MoF (2013), Ruslandi (2015b); the certification cost for SVLK/PHPL, LEI and FSC was obtained from Astana et al. (2014) and Ruslandi et al. (2014).

Forest Trade Network and The Nature Conservancy (TNC). The Borneo Initiative (TBI), a programme started in 2010 on financial assistance for certification, attracted many

concessions interested in FSC and sped up certification. Between 2010 and 2013, FSC-certified area more than doubled to 1,823,282 ha (5.1% of total production forest area) (Figure 4).



**Figure 4.** The area under timber production and the area certified by FSC in the three countries. The bars represent the area under production and the lines represent total area certified by FSC (red = Indonesia, blue = Peru, grey=Cameroon).

#### 4.1.3 Cameroon

The history of forest certification in Cameroon can be traced through the appearance of the SFM paradigm that was adopted by the Ministry of Forest, Environment and Fisheries—which in 2004 was divided into the Ministry of Forests and Wildlife and the Ministry of Environment—and influenced the 1994 Forest law and several other regulations adopted in the 1990s and 2000s (Table 3). One of the requirements of the forest law No 94-01, implemented since 1995, was that logging companies in forest management units (FMU) must prepare a management plan to ensure the ecological, economic, and socially sustainable management of their concessions. Although the overall quality of several management plans has been assessed as wanting (e.g. Cerutti et al., 2011), this requirement forced many logging companies to implement silvicultural rules (e.g. minimum cutting diameters) and to acquire skills in social forestry (e.g. negotiation platforms with the

logging concessions' neighboring population or financial redistributive schemes (Cerutti, Lescuyer, Assembe Mvondo, & Tacconi, 2010) that did not exist previously, and that also prepared the companies for the arrival of FSC certification a decade later.

From early 2000, after efforts to effectively implement sustainable management plans for their concessions, companies started to engage in independent forest management certification and the first FSC certificate was granted in 2005. These companies have several characteristics: European capital, large concession area, and they export primarily processed products to European markets. Another factor facilitating the adoption of FSC certification by some companies based in the Congo Basin was support offered by environmental NGOs to engage in this process (Lescuyer 2006). WWF has played a special role in deployment of FSC in the Congo Basin by establishing the Central

**Table 3.** Certification scheme's entry into Cameroon and actors involved.

Certification scheme name	Year of certification scheme's establishment in the country	Public actors involved	Private actors Involved	Investors	Amount invested
FSC	2005	None at the national level	WWF, IUCN	WWF*	-
OLB	2004	None at the national level	SGS, Bureau Veritas	-	-
FLEGT-VPA	2010	State of Cameroon and European Union	Forest concessions	-	13.6M Euro**

\* Over the years, WWF has been helping logging companies (often with financial support) to prepare fauna inventories and fulfill other requirements to meet compliance with the FSC criteria.

\*\*ECA 2015. EU support to timber-producing countries under the FLEGT action plan. Luxembourg, European Court of Auditors.

Africa Forest & Trade Network (CAFTN), joined by several logging companies in return for WWF's technical and financial assistance.

Between 2005 and 2010, competition between companies and States participating in the expansion of the number of FSC certificates in Central Africa ensued (Figure 4). However, since 2010 engagement in FSC certification has slowed down due to the economic crisis that reduced the financial means of many forestry companies and the rise of Asian countries as export markets (Huang et al 2013). However, the State of Cameroon signed a FLEGT-Voluntary Partnership Agreement (VPA) in October 2010.

#### 4.2 The influence of FSC certification on forest governance

To analyze whether FSC certification has influenced forest governance in Cameroon, Indonesia and Peru we national regulations and requirements of the FSC standard. In Peru, the normative regime used was the LFFS (2000) and its respective regulations as well as other related legal instruments, together with the national FSC standard for forest management (FSC 2002). In addition to the FSC principles, approaches to verification of legal wood sources under national regulation and the FSC scheme were analyzed. In Indonesia

relevant national regulations were compared with the international FSC standard for forest stewardship version 5 (FSC, 2014), whereas in Cameroon the 1994 Forest Law and related implementing decrees were compared with the national FSC standard for forest management (FSC, 2012).

The requirements related to biodiversity conservation in the FSC standard go beyond government regulation in all three countries studied (Table 4). FSC's emphasis on long-term sustainability is inherent in the standard whereas this commitment is less clear in the public regulations. For example, in Indonesia Reduced Impact Logging (RIL) is used as a proxy for sustainable forest management (SFM) whereas in Cameroon no post-harvest inventory is required. In Peru there is a requirement to have sustainable management indicators but the estimate of a concession's productive potential is mainly based on secondary sources.

Although management plans are mandatory in all countries, the FSC standard gives more technical specifications and sets stricter conditions for operations. In Indonesia, there are no explicit regulations that require biodiversity conservation at the concession level although small portions of concessions should be set aside to protect genetic resources, and

**Table 4.** Seven key requirements contained in the FSC standard compared with the national legislation in Indonesia, Peru and Cameroon. “1” indicates that FSC requirements exceed the regulatory ones whereas ”0” indicates that the requirements are equivalent with national regulation.

Key requirement	Indonesia	Peru	Cameroon
<b>Principle 1: Compliance with Laws and FSC principles</b>			
Demonstration of long-term commitment with the SFM principles	1	1	0
Evidence of balanced attention to social, ecological, and production issues.	1	1	0
Documentation for forest delineation.	1	0	0
<b>Principle 2: Workers’ Rights and Employment Conditions</b>			
Worker’s safety improved through training and equipment	1	1	0
Worker’s health improved through preventive health plan	1	1	0
<b>Principle 3: Indigenous Peoples’ Rights and Principle 4: Community Relations</b>			
Indigenous Peoples’ and local communities’ rights improved by recognizing and respecting customary rights and local community rules	1	1	1
Indigenous peoples’ and local communities’ rights improved through requirement for stakeholder participation.	1	1	1
Negotiate and make an agreement on the compensation fee for the communities.	1	1	0
Internal policies and actions to solve any claim or conflict that could emerge from use of forest resources are defined in a written document.	1	1	0
Social baseline surveys and social impact assessments.	1	1	0
Products diversification and integration with complementary activities that could generate benefits to local communities.	1	1	0
<b>Principle 5: Benefits from the Forest and Principle 6: Environmental Impacts</b>			
Harvest plans include several technical specifications to achieve economic efficiency and environmental protection, for example by requiring Reduced Impact Logging and pre-harvest timber inventories.	1	1	0
Risk assessment before site disturbing activities	1	1	0
Requirements to reduce soil erosion.	1	1	0
De-activation activities (e.g., post-logging road and skid trail closure) to reduce soil erosion and restrict illegal access	1	0	0
<b>Principle 7: Management Planning and its implementation</b>			
Public summary of management plan	1	1	0
Technical prescriptions required for management plans go beyond legal requirements	1	1	1
Justification about harvesting rate based on data gathered from the inside of the operation area.	1	1	0
An internal monitoring and assessment system that allows identifying productive, biological, environmental and socioeconomic changes attributable to forest management against a set of minimal indicator proposed in the standard.	1	1	0
Results of monitoring are public and taken into account in periodic reviews of management plans.	1	1	1
<b>Principle 9: Maintenance of High Conservation Values’ Forests (HCVF)</b>			
Maintenance of High Conservation Values’ Forests (HCVF) through training, stakeholder consultations, and incorporation of habitat protection and monitoring into planning and operational procedures.	1	1	1
<b>Principle 10: Implementation of Management Activities</b>			
Implementation of management activities is controlled by external audits.	1	1	1

protection of flora and fauna is mentioned in the requirements for developing a monitoring plan. Also, High Conservation Values (HCVs) as a concept does not exist in public regulation in any of the three case study countries.

FSC standards also contain several clauses that go beyond normative requirements regarding human livelihoods. For example, in Indonesia legal rights of local communities, including indigenous people, are not recognized in many cases whereas the FSC standard requires that all activities that affect communities need to be preceded by community consultations with broad stakeholder participation. In Peru rights of local communities and indigenous people are recognized and include the requirement for free, prior, and informed consent (FPIC) but no guidance exists to implement the FPIC process. None of the countries has a legal requirement for social impact assessment which is mandatory in the FSC standard.

## 5 Discussion

### 5.1 Improving social and environmental performance through FSC certification

Based on our analysis FSC has improved social and environmental performance in the study countries through the different impact pathways. The requirements for stakeholder engagement and consultations in FSC standards go beyond normative public regulations and there are indications that these requirements are translated into improved social well-being in the field. For example, in Indonesia FSC certification has contributed to improvements in forest governance indirectly by improving transparency, involving more stakeholders in forest management, providing more space for non-government organizations (NGOs) and other civil societies, and building trust among stakeholders (Muhtaman & Prasetyo, 2006; Ruslandi, et al., 2014). In addition, FSC certification also reduced deforestation and incidence of air pollution and increased

wellbeing of local communities (Miteva et al. 2015). In Cameroon Cerutti et al. (2014) found that certified FMUs are consistently associated with better living and working conditions, presence of active local institutions, and the existence of a benefit-sharing mechanism. In Peru, Trujillo (2014) found better financial performance and working condition in those FSC certified concessions compared with those concessions that couldn't maintain the certification for over three years. Furthermore, certified concessions managers also recognized that the support that they receive from supporting certification initiatives allows them to improve their managerial and bargaining skills.

The standards and assurance pathways overlap to achieve intended sustainability impacts through third-party verification instead of assumed law enforcement. In our study countries certification requirements and their technical specifications are often more encompassing than those of public regulations (e.g. International Labour Organization's requirements), thus requiring higher environmental and social performance which in some cases has also been shown to happen (e.g. Cerutti, et al., 2014; Miteva, Loucks, & Pattanayak, 2015). However, the assurance pathway seems to be even more important as implementation of public regulation is wanting, and the regulations themselves have gaps in monitoring. For example, the monitoring of post-logging activities is not included under regulation in Indonesia. The importance of the assurance pathway is increased by the timber procurement policies implemented in many timber importing countries, especially in Europe, as they can increase certification update and enhance the rulemaking authority of forest certification schemes (Gulbrandsen, 2014). However, more stringent standards may also encourage exporting timber to economies with less stringent regulations, such as India and China, in favor of traditional timber export markets (Masiero, Pettenella, & Cerutti, 2015).

The market pathway has been the weakest impact pathway to improve practices in the countries examined. Although market advantages and premium prices were intended to serve as an incentive for companies, it seems that it has rarely been the motivation to comply with certification requirements and to maintain certification. In Peru and Cameroon the companies that have been certified already had market access and used certification more as an assurance mechanism than a market access tool whereas in Indonesia the first certificate holders were already mainly compliant with the certification requirements due to the government initiative on SFM before using certification to gain access to European markets. Thus, certification was more an add-on benefit rather than an incentive to improve practices. Our findings confirm earlier results that although market advantages play a part in the motivation to get certified, it is not the most important motivation (Rickenbach & Overdeest, 2006).

## 5.2 How did change occur?

When examining the development of certification through the lens of the multi-level perspective framework, there are clear similarities between the study countries but also marked differences. The appearance of the SFM paradigm provided a window of opportunity for certification, notably the FSC, in all of the countries but the route for certification to become an established part of the forest governance regime differs between them. Indeed, it can be even questioned whether certification is an established part of the regime or still trying to break into the regime.

In Peru, government has had a strong role as a supporter of certification from national to regional level from the beginning. Thus, certification has most likely had a positive knock-on effect on the public regulation as the processes to develop a national FSC standard. Revision of the forest law was conducted in

parallel with some of the same actors involved. Indeed, some of the certification criteria are substituted by public regulation, such as the requirement for free, prior, and informed consent (FPIC) and the rest are complementary.

In Cameroon certification was adopted rather late but has become an established part of the forest governance regime. The uptake has been led by companies that trade in European markets, and certification has been used to ensure a better implementation of the sustainable timber production paradigm. Although sustainability as a concept is deeply embedded in the legal framework of all study countries, timber harvesting in accordance with legal management plans can still be unsustainable (Cerutti, Nasi, & Tacconi, 2008; P. O. Cerutti, L. Tacconi, R. Nasi, & G. Lescuyer, 2011). Hence, certification can be seen as a complementary instrument, especially in the monitoring and enforcement phase of the regulatory process.

In Indonesia we see a different narrative. From early on the government has been focusing on its own certification programmes although it worked with donor countries to develop models of SFM which acted as a spring board for the concessions involved to gain FSC certification. Similarly, the private sector developed its own certification programme rather than embracing the FSC as in Peru. Thus, in Indonesia FSC certification is still, after 18 years from the first certificate issued, more a niche innovation trying to break into the market than an established part of the governance regime which is also evident from the lack of a national FSC standard. Furthermore, there is tension between public regulation and the FSC standard as there are some FSC rules that contradict national regulations (e.g., silviculture intensification rules require higher logging intensities contradicting research recommendations) (Ruslandi et al. 2014).

Although NGOs have played an important role in building support for certification, it is

the macro-level processes and, at least in the initial stages of certification, trade development that seem decisive in the adoption and maintenance of certification. In Peru reforms towards market liberalization coincided with emergence of certification. These reforms were embraced and ever since Peru has been one of the most successful countries at confining protectionist pressures within formal trade remedy mechanisms and maintaining a liberal trade system (Finger, 2015). In Cameroon political reforms were undertaken concurrently with those in Peru but there was a lack of government commitment to move beyond serving the diverse private interests in society (Essama-Nssah & Gockowski, 2000). In Indonesia economic liberalization had happened in 1970 but the lack of democratic institutions and transparent practices may have contributed to the government's willingness to build its own certification programme. Even more so, the Ministry of Forestry did not want to lose its most powerful tool vis-à-vis other state agencies -- the power to regulate transnational actors in pursuit of its policy goals (Giessen, Burns, Sahide, & Wibowo, 2016).

Currently the majority of Indonesian timber is either used domestically or exported into other Asian countries. Therefore, it is unlikely that market pressure will force timber producers in Indonesia to improve their forest management practices unless Japan and China commit to purchasing only legal and sustainable timber products. If at the same time the VPA between the Government of Indonesia (GoI) and the EU allows Indonesian timber products to enter the EU market with only GoI's legality compliance, and if there is no premium price for FSC-certified timber, it is likely that timber producers in Indonesia will abandon FSC certification, which requires a larger effort and higher costs (Ruslandi, et al., 2014). In contrast, in Peru the US has been a major supporter of certification and an important trade partner at the same time. Although the money flows are separate, the focus placed on certification by the US has

been reinforced by both channels. An additional influence channel for donor countries is through intergovernmental organizations, such as the World Bank or the International Monetary Fund as they can pressure countries to undertake policy reforms as was the case in Cameroon and in Indonesia to integrate SFM into their forest regulations even though Indonesia resisted at first and complied only after the Asian economic crisis hit (Bernstein et al., 2010).

Besides macro-level processes, cultural values can influence corporate behaviors (Matten & Moon, 2008). For example, in Peru the trust in market-oriented responses to regulatory problems is evident from of the

concessionaries' belief that the government must have a predominant role in promoting the certification standard by limiting participation in public purchases of timber or derived products to FSC-certified products (Trujillo, 2014). Thus, although they believe that government must exercise control over production conditions, the actual improvement in management practices is best done through complementary market mechanisms with third-party verification of implementation of the required management practices. However, at the same time, limiting participation in public timber procurement would level the playing

**[I]t is unlikely that market pressure will force timber producers in Indonesia to improve their forest management practices unless Japan and China commit to purchasing only legal and sustainable timber products.**



field for those already certified as one of their concerns has been that they don't perceive any economic advantage to maintain the FSC certification in the markets in which they participate, considering the costs related with it.

## 6 Conclusions

Looking at the development of certification and comparing government regulations and FSC certification standards, this paper explored how the governance regimes in Indonesia, Cameroon, and Peru have evolved to address biodiversity conservation and human livelihoods dependent on forests.

There are three pathways (through cooperation, indifference or competition) for translation of certification standards and processes into current forest governance regimes based on government support: 1) *Cooperative* in Peru where the government has been a strong supporter of certification from the beginning and where the main interactions between certification and national public regulations are substitution and complementarity;

2) *Indifference* in Cameroon where certification is mainly complementary to public regulations and certification uptake is led by private companies; and 3) *Competition* in Indonesia where government has built its own certification programmes and there exists antagonism between some of the public regulations and FSC certification, in addition to some complementarity. The pathway seems to be determined by macro-political development, trade opportunities, and cultural values but also by governments' willingness to transfer regulatory power to private governance schemes.

What has emerged from these transitions is a patchwork forest governance regime within which various policy instruments interact to achieve the overall goal of sustainable forestry. Certification—as a market-driven, voluntary governance system—is just one of the tools that can be used to improve environmental and social sustainability within forest governance. Standard public policies can be another such tool. These tools can be complementing each other or, in some cases, they may set in motion deleterious antagonist processes. For example,

although in theory both systems (the private and the public) aim at promoting and implementing SFM, findings indicate that the former has had better impacts than the latter (in study countries) in improving private companies' behaviours and business models. These findings are particularly relevant in the context of the recent national and international responses to environmental issues such as illegal logging, which rely very much on the implementation of laws and regulations. While in theory (i.e. in the letter of the law) the latter are built on SFM principles, in practice their bar may not be set high enough to ensure that SFM is actually implemented (McDermott, Cashore, & Kanowski, 2009; Viktor, 1999). More research is thus needed to understand when and where such antagonism is occurring, in order to be able to set in motion policy processes (both private and public) aimed at curbing it.

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