

# Chapter I

## Introduction: Understanding the Complexities of Illegal Logging and Associated Timber Trade

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## 1.1 Definition and Scope of the Problem

Ingredients for a good media story often include a bad guy, source of all problems, a helpless victim and a knight in shining armour who will save the day. Similar simplistic stories exist about illegal logging and associated timber trade. The media have been presenting “bad guys” logging for their own economic benefits, creating environmental and social victims, and demanding a - mostly political - response to solve the issue and giving credit to those who have enforced this response. Probably, as in most other cases, simplification does not account for all aspects of the story and in particular, not for the complexity of illegal logging and associated timber trade which results from different interconnected problems and challenges.

One of the basic challenges is the diverse understandings of what illegal logging means - and to whom. This ambiguity has consequences not only for estimating the scale of illegal logging and associated trade but also for identifying its drivers and impacts. Depending on the dominant understanding of illegal logging, governance responses might address particular activities while disregarding others.

Though there have been diverse reports about illegal logging recently (e.g. Hoare, 2015; Lawson and MacFaul, 2010; Nellemann et al., 2016), a detailed and comprehensive review of the multi-faceted and complex nature of illegal logging and associated timber trade as well as response options is missing (Hoare, 2015). For this reason, the Collaborative Partnership on Forests (CPF) tasked the Global Forest Expert Panels initiative (GFEP) to initiate and coordinate a global scientific “Rapid Response Assessment” on illegal logging and related timber trade (hereafter the “assessment”).

This assessment is designed to gain a deeper understanding of the meaning of illegal logging and associated timber trade, its scale, drivers and consequences as well as to identify the opportunities and constraints of existing policy and governance initiatives. It aims to provide a global structured synthesis of existing scientific and expert knowledge on illegal logging and associated timber trade while adding to existing studies and reports by providing new insights, e.g. a criminology perspective, and new information about timber and timber product trade flows. This comprehensive and unified assessment also explores future policy options regarding illegal logging by reaching out to international as well as national policymakers and stakeholders concerned with legal and sustainable forest management. Furthermore, it brings together scientists from various academic disciplines (e.g., forest-related policy, law, governance, economics, management, timber trade) working on the advancement of the state of knowledge related to illegal logging and associated timber trade.

In order to achieve these aims this assessment first seeks to understand the full meaning of illegal logging which varies depending on who responds (see Chapter 2). Existing definitions range from a rather narrow

understanding of illegal logging that refers to taking timber from outside authorized forest concessions or exceeding assigned timber quotas, to broad definitions comprising the entire value and supply chains, including the processing and trading of timber and timber products. Many studies and programmes have acknowledged that there is no such thing as *the* illegal logging but rather various types of illegal logging that can be differentiated, e.g. the “ten ways to conduct illegal logging” (Nellemann and INTERPOL Environmental Crime Programme, 2012). It is however recognized that many of these activities are interrelated and therefore a clear differentiation becomes difficult.

For an empirical analysis following Hoare (2015), illegal logging and related timber trade can be defined as including all practices related to the harvesting, processing and trading of timber inconsistent with national and sub-national laws. The restriction to the national level is given not least because there is neither an overarching international regulation against illegal logging nor an internationally-accepted definition of what illegal logging encompasses. However, domestic law differs from country to country and changes over time. Another caveat of using the given national law as the baseline against which to measure illegality is the question of the legitimacy of this law. Whether legal statutes are accepted as legitimate and valid depends on the perspective taken (see Chapter 2). The validity of law can be challenged if it does not follow a legally valid procedure. Furthermore, a society as a whole, or particular societal groups, may not accept the whole basis of a legal framework or a particular approach to legislation. For example, conflicts over forest tenure rights might lead to non-acceptance of any other statutes that do not acknowledge this struggle. At the other end of the spectrum, illegal logging can be conducted in networks of organized crime. These often



Carpenter chainsawing a felled tree in a forest near the Ovangoul village, Center Region, Cameroon.  
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stretch across different economic sectors, other areas of crime and across national borders.

The different understandings of illegal logging result in a large number of partly conflicting “guesstimates” (Bisschop, 2012) about its consequences. Some scholars and experts depict illegal logging as a (hidden) crime in an “abysmally regulated” (Leipold and Winkel, 2016) forest sector. They argue that illegal logging and associated timber trade is supported by both voracious businesses and corrupt governments in the Global South as well as the opportunism of (some) importers in the Global North (see, for instance, Von Bismarck, 2007; INTERPOL and The World Bank, 2009). Others depict illegal logging as an ambiguous phenomenon with different expressions across the variety of affected countries arguing that it often results from unclear legal situations (e.g. regarding informal or traditional tenure rights) and the illegalization of subsistence logging (see, for instance, Cerutti et al., 2013; McDermott et al., 2015). Finally, a third group of scholars and experts specifically highlights international competition in the wood (products) markets as a significant dimension of illegal logging and associated trade (e.g. Seneca Creek Associates LLC and Wood Resources International LLC, 2004; Jaakko Pöyry Consulting, 2005; Schwer and Sotirov, 2014; Leipold et al., 2016).

Illegal logging and related trade is often associated with far reaching environmental, social and economic consequences (see Chapter 6). It is accused of being a constraint to sustainable forest management, resulting, among other things, in a loss of biodiversity and habitats in addition to contributing to climate change (Putz et al., 2012; Edwards et al., 2014). At the same time, illegal logging has been connected to highly sensitive economic and development issues such as the distortion of markets and free trade, loss of government revenues and tax evasion, increasing income disparities resulting in impoverished rural communities (McElwee, 2004; Sotirov et al., 2015). Furthermore, illegal logging is considered to undermine the principles of statehood such as national sovereignty over natural resources or good forest governance. Though the political and scientific discourse has focused on these perceived negative impacts, it has become increasingly evident that illegal logging and its consequences are much more nuanced than this (Cerutti and Tacconi, 2006). Illegal logging may result for example, in income for poor and unemployed people, in alternative land uses like farming, in higher revenues for local or national governments or in lower prices for consumers (Tacconi et al., 2003). In turn, banning illegal logging does not automatically guarantee the sustainable management of forests.

The multitude of consequences ascribed to illegal logging activities are strongly related to a number of underlying causes that vary between places and show high complexity covering structural, economic and political reasons. Contreras-Hermosilla (2002) acknowledges that these roots are contextual and are influenced by such factors as policies, traditions, level of democracy etc. The drivers of illegal logging are strongly interrelated with drivers of deforestation and forest degradation. Indeed, forest loss and degradation may result from legal activities as well (see Chapter 4).

Though there is a common understanding that accurate data on the scope of illegal logging is hard to obtain, scientific studies as well as reports and programmes, time and again release detailed figures (see Chapter 3). These appear to show a large variation, depending on the definition of illegal logging taken, but also on the dimension used for estimating, e.g. land area, cubic metre or economic valuation, and methods applied. Despite this variation, studies agree in highlighting the potentially severe extent of the problem. For instance, the World Bank estimated in 2005 that losses from illegal logging in terms of a global market value were more than USD 10 billion annually with a loss of government revenues totalling about USD 5 billion (World Bank, 2005). In a later study, the total global market value increased to at least USD 30-100 billion. Sources in the report noted that “an area of forest equivalent in size to the territory of Austria disappears worldwide every year as the result of illegal logging” (INTERPOL and The World Bank, 2009). A key challenge for political decision-makers given these diverse figures is to find a common methodology to interpret them in order to extract reliable conclusions.

Given the uncertainties surrounding data about illegal logging, it is not surprising that reports present conflicting views on whether illegal logging is declining or not. Hoare (2015) states that “important progress has been made in reducing illegality in the forest sector over the last decade”; in contrast, the report on “Green Carbon, Black Trade” three years earlier (Nellemann and INTERPOL Environmental Crime Programme, 2012) claims that illegal logging has remained high in many regions and has even increased in some areas. It is argued that illegal logging becomes more advanced with better organized activities, and laundering operations masking criminal activities (Nellemann and INTERPOL Environmental Crime Programme, 2012). It is further argued that forest law enforcement and certification and management efforts only have had short term effects on illegal logging (Nellemann and INTERPOL Environmental Crime Programme, 2012). This may lead to “leakage” or the shifting of illegal logging activities to other countries with lower standards.

Since the 1990s, improvements in government responses to illegal logging and related trade can be observed in both producer (and processing) and consumer countries (Lawson and MacFaul, 2010; Hoare, 2015). In producer countries, particularly in Brazil (Lawson and MacFaul, 2010) and later in Indonesia, progress has been highlighted (Hoare, 2015). National policies are strongly interlinked with and have been fuelled and supported by international political processes and nongovernmental organizations. The observed improvements are categorized mainly as procedural rather than substantive. Furthermore, reports indicate persisting weaknesses in policy responses of producer countries, e.g. concerning forest-related information, law enforcement, transparency and corruption (Lawson and MacFaul, 2010; Hoare, 2015). Another challenge for policies in mainly (but not exclusively) producer countries is the, at times, limited capacity for legally valid procedures for law-making.

**Definition of illegal logging and related trade**

Building on the report by Hoare (2015) and an article by Smith (2002) this assessment report uses as broad definition of **illegal logging and related timber trade** as being “**all practices related to the harvesting, processing and trading of timber inconsistent with national and sub-national law**”. Such practices include, for instance, operating under a licence that has been obtained illegally, e.g. involving corruption or collusion, logging in protected areas, exceeding permitted harvest quotas, processing logs without the necessary licences, tax evasion and exporting products without paying export duties. The definition encompasses “related trade” when timber-based products are exported or imported in contravention to import or export laws or when illegal timber products are exported or imported. Hence, this definition describes illegal logging as a phenomenon that stretches across global timber supply chains.

Consequently acceptance or fairness in the exercise of power might be missing (Tacconi, 2008).

In order to support producer countries, bilateral arrangements have emerged, either between neighbouring countries or between primary export and import countries. For instance, the EU Forest Law Enforcement, Governance and Trade Action Plan (FLEGT) supports countries in developing more effective forest laws and law enforcement. Yet, a formal overarching international treaty remains absent - except for the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) protecting some specific endangered tree species. In addition to voluntary cooperation between countries, large “consumer” countries and jurisdictions have developed measures (e.g. the European Timber Regulation (EUTR) or the US Legal Timber Protection Act (LTPA)) banning the import of illegally-logged timber and timber products and requiring legality verification systems. Although the legal requirements are similar in all three schemes, the process by which economic operators and traders adhere to laws differs significantly within and across “consumer” countries and jurisdictions (Leipold et al., 2016). In addition, these consumer-driven policies have perverse consequences inside and outside their jurisdictions. Apart from a general decline in timber import and in particular tropical timber import (Giurca et al., 2013) that might put pressure on domestic forests to further increase domestic timber production, “producer” countries have the option to trade with other partners with less legally-stringent regulatory frameworks (Schwer and Sotirov, 2014). Consequently, some policy programmes demand concerted action across “consumer” and “producer” countries, and multiple political levels. At the same time, many Southern countries have developed a range of individual national responses including national law-making and enforcement efforts or the development of their own legality verification schemes with support from the EU FLEGT Action Plan. It is essential to identify effective policy response options to understand failures and success stories of governance responses (Chapter 7).

It is only recently that illegal logging and associated timber trade have been framed not only as a legal problem but also as a criminal one. To date, reports point to the increasing professionalization of illegal logging fuelled by its interlinkage with organized criminal cartels, e.g. by laundering drug money (Nellemann et al., 2016). To

understand illegal logging and associated timber trade as a criminal activity requires in particular the examination of professional criminal business networks and the poor enforcement of applicable regulations (see Chapter 5).

## 1.2 Context of the Assessment: A Brief History of Framing Illegal Logging and Related Timber Trade in the Political Arena

The multi-faceted nature of illegal logging and related timber trade signifies that it means different things to different countries, organizations and individuals. In turn, these different understandings determine how a policy problem is defined, how policy discussions are framed and what solutions are found.

Although the issue has been high on the international political agenda for many years, political framing of the problem often focused on particular aspects while excluding others. In the late 1980s and early 1990s, for instance, “illegal” logging was an international non-issue (Humphreys, 2006) because countries viewed as major exporters of timber did not want to accept sole blame for the problem (Leipold et al., 2016). Hence, illegal timber trade first appeared as “undocumented trade” (Humphreys, 2006) in the International Timber Trade Agreement in 1994. The term “illegal” logging was for the first time prominently promoted by the G8 Action Programme on Forests (Humphreys, 2006). Here, the term became accepted by producer countries because the Action Programme “did not anymore point the finger only at them [producer countries] but also held the consumers responsible” (Leipold et al., 2016). Despite the shared responsibility, the majority of studies and policy papers in the 1990s highlighted the criminal, environmental and public finance aspects of the issue and focused on solutions in “producer” countries of illegal wood. The UK and the US, for instance, prominently supported the Forest Law Enforcement and Governance (FLEG) initiative of the World Bank, launched in 2001. Only two years after FLEG, the European Union launched its own initiative: the Forest Law Enforcement, Governance and Trade Action Plan (FLEGT) (Sotirov et al., 2015). The UK further pursued bilateral trade agreements with timber-producing



countries in the tropics (e.g. a Memorandum of Understanding between the UK and Indonesia (Leipold et al., 2016)). All these initiatives pursue similar goals: targeting developing countries that were seen as major producers of illegal wood (e.g. Indonesia or Ghana - see for e.g., Wiersum and Elands, 2013). They are supposed to support “producer” countries to enforce their own forest laws and, thus, advance their economic development as well as social and environmental stewardship in the forest and land use sector (see for e.g., van Heeswijk and Turnhout, 2013).

In the late 2000s, international competition entered into the picture. Specifically, political discussions in consumer countries, such as the US or Australia, increasingly portrayed illegal logging as a decisive factor in the global wood (products) trade between “producers” and “consumers”. As economic globalization in the forest products sector accelerated the marketing of tropical forest products to consumers in the North, leading industry associations in Europe and North America came to increasingly view illegal logging outside their own borders as an issue of competitiveness (Schwer and Sotirov, 2014; Leipold et al., 2016), while environmental groups presented illegal logging as a problem for tropical developing countries and highlighted the environmental dimension of the problem. The convergence of these two objectives - to protect both Southern forests and Northern wood (products) markets - led to the emergence of national policies that prohibit the import of wood (products) harvested or traded in contravention to the laws of the country of origin (Leipold et al., 2016). These policies include the US Lacey Act (LTPA) 2008, the EU Timber Regulation (EUTR) 2010 and the Australian Illegal Logging Prohibition Act (ILPA) 2012. All three laws together have been portrayed as forming a newly emerging global legality verification regime (Bartley, 2014; Overdevest and Zeitlin, 2014). Together with earlier initiatives that target producer countries directly, this regime is viewed as holding the potential to promote global economic development and environmental goals related to forest management and the entire forest product supply chain. Yet, the more ambiguous aspects of “illegal” logging such as local livelihoods and potentially sustainable but nominally illegal small-scale production hardly gained a prominent position in political debates (Lesniewska and McDermott, 2014). Hence, the applicable laws focus on large scale producers trading internationally.

This narrow problem focus has led to emerging critique of the new “timber legality regime” (Bartley, 2014). Some analyses caution of possible adverse effects on local forest governance due to “disproportionate burdens on smallholders” (McDermott et al., 2015) or see even incentives for “governments to weaken their laws” (Bartley, 2014; see also Cashore and Stone, 2012). They, hence, criticise existing interventions as ineffective in mitigating global deforestation. Other analyses however, expect existing initiatives to promote enhanced environmental stewardship in the forest sector (Cashore and Stone, 2014; Overdevest and Zeitlin, 2014). A third group of studies argues that due to diverging environmental and

economic goals, their success will likely develop in a dynamic way and depend on reconciling both goals in the implementation process (Leipold et al., 2016). Finally, the focus of these initiatives on international trade has been criticized as leaving out consumption and trade of wood (products) within producer countries which may in some cases far exceed the amount traded internationally (see for e.g., Cerutti and Lescuyer, 2011).

These diverging assessments relate to the policies specifically designed to tackle illegal logging and related timber trade. In particular, they relate to “Western” responses to internationally-traded wood and wood products. Next to these policies, however, Southern countries also developed a range of national responses. Indonesia, for instance, pioneered the development of its own legality verification scheme in cooperation with the EU under FLEGT. Other countries, like Ghana or Malaysia, are still deliberating whether to develop a legality verification system under the EU FLEGT. More generally, it is common for countries in the Global South to develop constantly their national and regional forest laws and to support their enforcement as a means to tackle illegal logging. Although these do not necessarily ensure sustainable forest management and in many cases are not being strictly and coherently enforced (McDermott et al., 2015; Sotirov et al., 2015), they are the basis for any legal forest activity.

In addition to these national efforts, a wide range of governance initiatives exist that may also have an effect on illegal logging and related trade but have been designed for other (usually broader) purposes. These include international governance initiatives and organizations such as the UN Programme for Reducing Emissions from Deforestation and Forest Degradation (REDD+) or the Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES), which support the aim to eliminate illegal logging as one of the drivers for greenhouse gas emissions resulting from deforestation and trade with endangered species respectively. In addition, non-state market driven mechanisms like certification schemes under the Forest Stewardship Council (FSC) and the Law Enforcement Assistance for Forests (LEAF) project by INTERPOL and the United Nations Environment Programme (UNEP), support existing policies by, amongst others, building capacities and providing training to enforce national forest laws. Furthermore, international bodies and initiatives like the World Trade Organization (WTO), the UN Universal Declaration of Human Rights or the UN Sustainable Development Goals (SDGs) relate to the topic without being directly concerned with illegal logging. Given the space and time limitations of this rapid response assessment, the present report will not review the entire range of governance frameworks but instead focus on policies specifically on illegal logging and related timber trade.

This differentiation in governance frameworks points to a gap between the scientific and expert literature on illegal logging and associated timber trade highlighting the multi-dimensional and multifaceted nature of the phenomenon on the one hand, and on the other, the governance frameworks designed to tackle the issue that are

based on much narrower problem definitions. Hence, governance interventions exclude certain, important aspects of the phenomenon they aim to tackle. Following from this discrepancy, this report aims to shed light on the different definitions, dimensions, drivers and effects of illegal logging and related timber trade found in the scientific and expert literature with the aim to better inform future governance efforts.

Despite the broad acknowledgement and repeated efforts to address illegal logging internationally over the last decades, further actions and future efforts are still required. Recent reports demonstrate that in many countries the vast majority of timber production remains illegal (Hoare, 2015). Hence, the need for increased international collaboration to combat illegal logging and related timber trade has been strongly recognized at the highest level of intergovernmental cooperation. The UN General Assembly (UNGA) emphasized that “coordinated action is critical to eliminate corruption and disrupt the illicit networks that drive and enable trafficking in wildlife, timber and timber products, harvested in contravention of national laws” (United Nations Environment Assembly, 2014), which was supported by decisions of the UN Convention against Corruption and the UN Environment Assembly. In this context, international organizations and UN bodies, such as INTERPOL and the United Nations Office on Drugs and Crime (UNODC) have been mandated to assist their members to fight environmental crime. Furthermore the 2030 Agenda for Sustainable Development and the related Sustainable Development Goals, passed by the UNGA in September 2015, link environmental security and sustainable development, highlighting that combatting illegal logging and related timber trade is vital for the future, and needs highest attention.

### 1.3 Scope and Methodology of the Rapid Response Assessment

The substantive scope and main data sources of this assessment include relevant studies carried out within different academic disciplines including economics, ecology, political science, sociology and criminology. The knowledge base also includes studies in the complex global market places related to illegal logging and

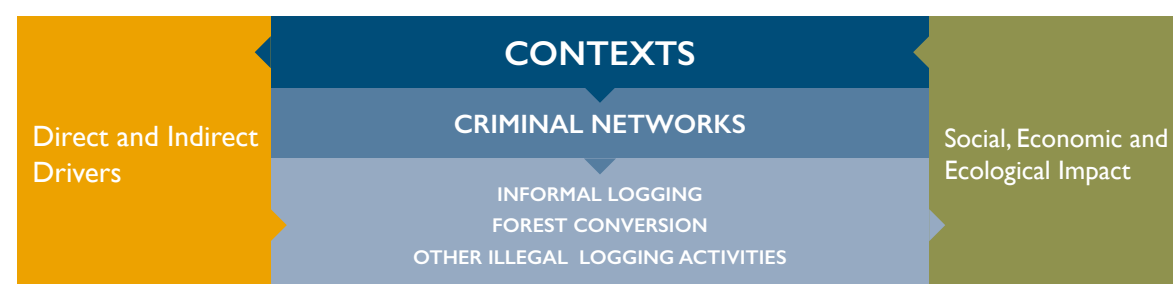
associated timber trade (including supply and demand). In terms of geographical coverage, the report reviews relevant studies that span multiple levels of governance (international, regional, national and local) and their interactions; as well as studies from industrialized, emerging and developing economies. Its main focus is on forest sector activities, impacts and drivers, but it also takes into account inter-linkages with other sectors. It illustrates some key aspects of illegal logging and related timber trade by providing an in-depth analysis of representative and/or typical country or regional case studies. The case studies were selected to capture the variety of socioeconomic, political, cultural and ecological settings in large producer and consumer countries and/or regions. In so doing, the assessment report covers existing knowledge on past and current developments, drivers and impacts of illegal logging and associated timber trade as well as the emergence and evolution of existing governance initiatives. Based on this, it identifies knowledge gaps and research needs as well as pathways and options for future efforts dealing with this complex issue.

In order to better capture the complex aspects of illegal logging, to better understand the causal links between drivers and consequences, and to identify potentially effective governance responses, this report differentiates three key definitions and dimensions of illegal logging (see Figure 1.1):

- I. The first dimension refers to illegal **forest conversion** defined as the illegal clearance of natural forests not primarily targeting the use of timber or other forest products but aiming to create other land uses like plantations, commercial agriculture or mining. Illegal forest conversion is often supported by weak or unclear governance.
- II. The second dimension comprises **informal logging**. This term refers to logging activities by small-scale producers that may operate illegally due to unclear legislation (e.g. tenure rights) or unreasonable and disproportionate costs of compliance (e.g. excessive charges or bureaucratic procedures).
- III. The third dimension includes **all other illegal forest activities** not covered in the two former dimensions. Recognising that this is a broad categorization deserving further nuance, additional details will be addressed throughout different chapters.

Three dimensions of illegal forest activities

Figure 1.1



The main methodology for the preparation of the present report included a multi-disciplinary review and synthesis of existing studies, reports and data sources reflecting current scientific and expert knowledge. In this way, the report is informed by multiple reported data from various relevant sources including content analysis of relevant documents, analysis of quantitative surveys and qualitative in-depth interviews, ethnographic research, participatory observations, production and trade statistics, trade data discrepancies, wood-balance analysis, import source analysis and review of criminological studies. The present report has also been subject to intensive in-group expert discussions and external expert peer review prior to its completion.

## 1.4 Structure of the Assessment Report

This assessment introduces the different conceptualizations of illegal logging and their associated socio-economic dimensions, drivers and impacts. It relates them to existing governance initiatives and their implementation, and provides a number of key findings and options for future actions (see Figure 1.2 for an overview).

Specifically, Chapter 2 examines the diverse concepts of illegal logging and associated timber trade. It identifies the main, yet significantly diverging, definitions and interpretations of illegal logging that can be found in political and scholarly literature. On this basis, it compares

and critically assesses the different paradigms of how decision-makers, stakeholders and scientists think about and, hence, attempt to tackle illegal logging and its varied effects.

Chapter 3 defines products subject to illegal logging and identifies global and regional markets and players, but also highlights national and sub-national markets. Specifically this chapter provides an overview of the magnitude of trade and flows as well as assessing, comparing and relating existing figures which allows for the identification of data gaps. Additionally, it presents both historical changes and forecast studies in relation to market development results.

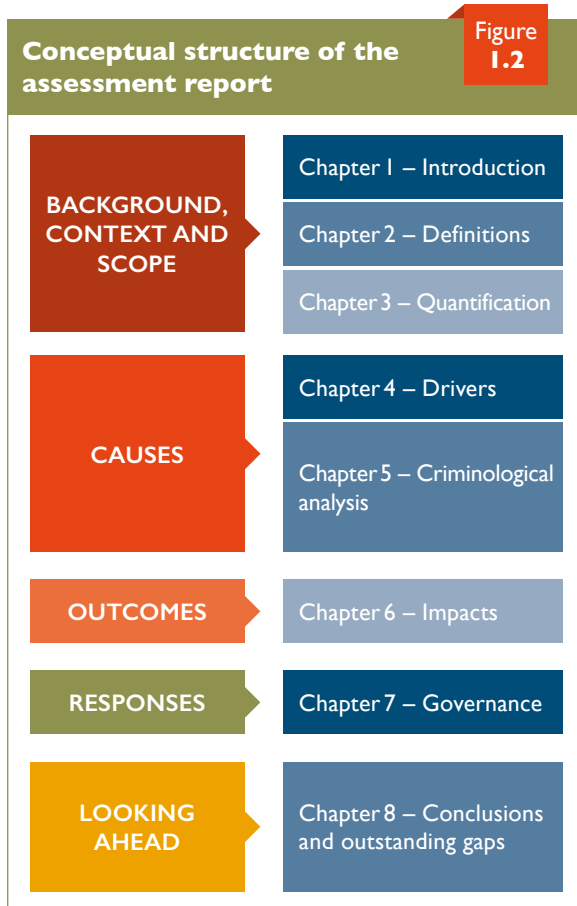
Chapter 4 addresses the drivers of illegal logging and timber trade. It adds to the existing literature by not only presenting the broader problem of deforestation or concentrating on specific criminal actors but also by assessing the role of the socio-economic contexts and individual motivations. These insights are based on categories built from behavioural economics, criminology sciences and deforestation studies; and by exploring the relevance of the conceptual driver categories regarding different forms of illegal logging taking place in different contexts and realized by different actors.

Chapter 5 provides a criminological analysis of illegal logging and the consequent illegal timber trade. It provides a typology of actors and networks involved in illegal logging and presents suggestions for law enforcement and crime prevention also addressing technical opportunities for forensic timber and monitoring.

Chapter 6 assesses the ecological, social, economic, as well as political impacts of illegal logging and associated timber trade as well as informal logging on global and regional scales, and includes examples from the national and sub-national scales.

Chapter 7 assesses past, present and evolutionary potential of three types of global interventions aimed at curbing illegal logging: domestic legislation that regulates the import of forest products; comprehensive bilateral agreements among producer and consumer countries; and, regional “good forest governance” initiatives that seek to generate learning among similar states for promoting support for, and compliance with, laws and policies.

Finally, Chapter 8 provides a synthesis of the major findings and identifies key areas requiring further research.



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