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# A framework to assess the impacts of corruption on forests and prioritize responses

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ABSTRACT

Corruption has often been blamed for causing deforestation, however, the evidence is mixed. The paper develops a framework to assess the impacts of corruption on forests and prioritize policy responses. Rather than relying just on a theoretical description of corruption, the framework is developed by analyzing how corruption manifests itself on the ground in the forest sector in Indonesia. The framework considers the potential impacts of corruption at different stages of forest management. We argue that to identify the specific impacts of corruption, it is necessary to understand intervening factors. It is shown that the impacts of different types of corruption on forests may be direct, indirect, ambiguous, or even negligible. Therefore, anti-corruption efforts should be more targeted to the specific types of corruption that are most likely to contribute to deforestation and forest degradation.



## 1. Introduction

Corruption[1] has been a well-documented feature of the forest sector of many countries and is thought to contribute to deforestation and forest degradation (Bulte et al., 2007; Laurance et al., 2011; Palmer, 2005; Richards et al., 2003; Robbins, 2000; Smith et al., 2006; Urrunaga et al., 2012; Williams et al., 2011; World Bank, 2006). Corruption in the forest sector has therefore attracted growing concern over the past several years due to efforts to reduce emissions from deforestation and forest degradation (REDD+), which have resulted in hundreds of millions of dollars being directed towards countries with high rates of deforestation and a prevalence of corruption (Corbera and Schroeder, 2011; Tacconi et al., 2009; Williams et al., 2011).

Despite this interest about corruption, it is still uncertain if it actually causes deforestation and forest degradation. Quantitative studies, which have utilised cross-country statistical models have had mixed findings. Barbier et al. (2005) found that, dependent on terms of trade, higher levels of corruption—modelled as government dependency on political contributions—increased deforestation across middle and low income countries. Higher levels of corruption have also been found to lead to higher rates of conversion of forests to agricultural land across Latin America (Bulte et al., 2007). Those authors argued that it was due to the operation of agricultural subsidies: farmers traded bribes for land-use subsidies. To get a greater share of those subsidies, the farmers then adopted inefficient modes of production leading to higher rates of conversion of forested land to agriculture. A seminal paper also found that corruption affected the total amount of forest loss, but not the loss of natural forests (Smith et al., 2003b). However, those findings were refuted. It was shown that corruption was statistically insignificant when the model was improved by adding missing anthropogenic and biophysical variables, and additional observations from the same data sources (Barrett et al., 2006). Importantly, Barrett et al. (2006) stressed that studies of corruption that do not present clear causal models of how corruption may be affecting resources need to be treated with caution. A similar argument was made by Aisbett et al. (2013), who include in their model variables that are common to other studies and fail to find a statistically significant relationship between corruption and deforestation. They point out that a realistic assumption is that deforestation does not immediately adjust to the determining variables, but it may do so overtime, as presented in their model. This could be a reason why other studies, which assume immediate adjustment, had found a statistically significant relationship between corruption and deforestation.

Qualitative research has provided some insights into the causal mechanisms by which corruption may contribute to deforestation

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[1] It is commonly defined as 'the misuse of entrusted power for private gain' (Pope, 1996).

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and forest degradation. Most of that research has focused on the relationship between corruption and illegal logging in that corruption contributes to forest degradation because it facilitates illegal activities such as overharvesting or high-grading (Alemagi and Kozak, 2010; Barnett, 1990; Callister, 1999; EIA and CIP, 2005) or harvesting outside concession areas (Smith et al., 2003a). However, this relationship may not always be direct and a nuanced understanding is needed for specific contexts (Cerutti et al., 2013; Palmer, 2005). Corruption, including bribes associated with monitoring and high-level capture of resources, has also been said to result in the lack of forest rehabilitation by companies (Barr et al., 2010). Research has also focused on the ways in which political corruption and patronage networks affect the use of forest resources, particularly decisions about concession allocation (Dauvergne, 1994; Kolstad and Søreide, 2009; McCarthy, 2002a; Palmer, 2001; Ross, 2001). Lucrative logging concessions, with minimal restrictions or tax requirements, are distributed to political (business or military) allies to secure favour. For example, Indonesia's President Suharto was renowned for his savvy distribution of logging licenses to key military officials to secure their support for his rule (Dauvergne, 1994; Poffenberger, 1997). Such patronage networks are thought to contribute to deforestation and forest degradation because i) licenses are awarded in excess of (legally recognised) sustainable harvest; ii) overlapping licenses are awarded; iii) monitoring and oversight of logging practices are often reduced to increase the license value for patronage; iv) the networks are often unstable so there is little incentive to plan for long-term logging (Poffenberger, 1997; Ross, 2001). Qualitative research has also pointed to the fact that different types of corruption may have different effects on forest resources. In their study of changing corruption in Indonesia following the fall of Suharto and the subsequent reformation, Smith et al. (2003a), argued that non-collusive corruption (which occurred more during the Suharto regime) had less damaging impact on forests than the collusive corruption and associated illegal logging which occurred following the fall of the Suharto regime. The authors argue that collusive corruption is not only more difficult to address (as the bribee and the briber both benefit) it is also more damaging. Whilst some of their findings are contradicted by the results presented below, it is nonetheless an important consideration for how different types of corruption may affect resource use.

Given the uncertainty about the impacts that corruption may have on forests, the objective of this study is to contribute to a more systematic and diagnostic approach to researching this relationship and its implication for policy. The specific contribution of this paper is to develop a framework[2] – grounded on the reality in which corruption manifest itself in practice – that integrates a more nuanced analysis of the impacts of corruption by considering two of its key manifestations: according to the rule corruption, and against the rule corruption (Bardhan, 1997; Shleifer and Vishny, 1993; Smith et al., 2003a; TI, n.d). According to the rule corruption (also referred to as non-collusive, see Smith et al., 2003a) facilitates the delivery of public services or the implementation of public procedures that are *legal*. For example, a company that has been awarded a forest concession (through due process) may have to pay a bribe to speed up to the process of issuance of the actual permits (which may or may not be willingly held back by public officers who seek bribes). Against the rule corruption (also referred to as collusive corruption) aims to obtain public services that are not due to the briber, or the implementation of public procedures that are *illegal*. An example of this latter type of corruption is a minister receiving a bribe to award a logging concession without following due process. It needs to be emphasized that in the above definitions the activities that are 'according or against the rule' are the services provided in the corrupt exchange. This should not be confused with the fact that all corrupt transaction are illegal, that is, if they are specified to be so by the law. By considering corruption from the perspective of whether it facilitates activities that are legal or illegal, it is possible to begin to identify the impact that the corrupt exchange has.

Corruption has also been defined as petty (involving small amounts of money), grand (large sums), political (involving politicians, and also affecting design of policies and laws) and bureaucratic (involving bureaucrats, and the implementation of regulations), as a means to distinguish the types and consequences of corruption (Clarke, 2011; Hellman et al., 2003; Pope, 1996; Rose-Ackerman, 1987; Rose-Ackerman and Palifka, 2016; Ross, 2001; Smith et al., 2003a; Sundström, 2012).[3] The sums (petty or grand) involved in a corrupt exchange indicate whether the benefit to the briber from the transaction is small or large. They cannot provide, however, an indication of the possible impacts of the transaction on forests, as petty and grand corruption can take place both for acts against or according to the rule. Further, petty and grand corruption may have a variety of economic impacts depending on broader characteristics of a country's economy and the corrupt exchange (Rose-Ackerman, 1997; Rose-Ackerman and Palifka, 2016). It is for this reason that we do not consider this characterization of corruption. In relation to the characterization of corruption as political or bureaucratic, it could be relevant to a detailed assessment of impacts on forests. Political corruption could influence the development of policies that allow forests to be converted, even if they provided greater benefits to society that warranted their conservation or sustainable management. Corruption effects on the creation of the regulations is not considered in the framework developed in this study, as it would require an amount of work and space at least similar to the research presented. But it deserves further research, and it could expand the framework presented here. The focus of this paper is therefore on corruption involved in the implementation of laws and regulations (hereafter referred to simply as regulations).

There are different regulations guiding decision making about forest use; these may include regulations surrounding land-use allocation, processes for awarding licenses and regulations that determine how logging activities occur. A framework that assesses the impacts of corruption needs to be nuanced to consider how different types of corruption may affect these different stages. This is necessary to provide relevant insights into the policies that may be most useful to address the problem, if a problem exists. To achieve this objective, we propose that the framework should include the stages of the forest management process relevant to the specific country being considered, which in this study is Indonesia.

A justification for the selection of Indonesia as a case study is presented in the next section, which deals with the methods. Section 3 analyses the different stages of forest management, being land-use planning, licensing and monitoring and enforcing regulations. Within each of these stages of forest management, a brief description of the process in Indonesia is provided, the types of corruption are identified, and its potential impacts are considered. Section 4

[2] In the words of Ostrom (2011, p. 8): 'frameworks are the most general forms of theoretical analysis. Frameworks identify the elements and general relationships among these elements that one needs to consider for institutional analysis and they organize diagnostic and prescriptive inquiry. . . . Frameworks provide a metatheoretical language that can be used to compare theories. They attempt to identify the universal elements that any theory relevant to the same kind of phenomena needs to include.'

[3] There has been some confusion in how these labels are applied. For example, to some grand corruption means large payments to political figures (Tanzi, 1998), to other it can also include high-level bureaucratic officials (Callister, 1999). Grand corruption is also considered the same as state-capture, and refers to corruption that affects the content of regulations (Hellman et al., 2003).