ELSEVIER
www.elsevier.com/locate/worlddev

CrossMark

World Development Vol. 85, pp. 73–83, 2016

http://dx.doi.org/10.1016/j.worlddev.2016.04.011

Corruption and Violations of Conservation Rules: A Survey Experiment with Resource Users

AKSEL SUNDSTRÖM*
University of Gothenburg, Sweden

Summary. — Small-scale corruption in government administrations that govern natural resources is believed to have a negative impact on conservation management. Yet, while corruption is said to obstruct the implementation of conservation policies, for instance as bribery may enable poaching in protected reserves, it is an underexplored area of research. This study investigates the effect of corruption, others' compliance behavior, and support for regulations on rule-violating intentions. In a between-subjects experiment, a sample of resource users active in South African small-scale fisheries ($N = 201$) answered questions about rule-violating intentions after reading one of four scenarios, each depicting a different situation of corruption among officials that enforce regulations and compliance behavior of other resource users. The results show that resource users are more likely to state rule-violating intentions when corruption among inspectors is widespread. Moreover, the study provides further theoretical insights into the process in which corruption perceptions deter the willingness to follow rules: there is an interaction effect with support for conservation regulations, suggesting that the effect of corruption is stronger among individuals who are less supportive of such rules. These findings lend further support for the proposition that to improve the effectiveness of conservation policy, more effort is needed to reduce bribery among government officials, such as rangers and inspectors that enforce natural resource regulations.

Keywords — Corruption, Natural resources, Conservation, Experiment, Governance, Regulations

1. INTRODUCTION

A necessary condition for sustainable management of natural resources is not only that there are some institutionalized rules of usage and access, but also that these rules are enforced and that they are adhered to by users (Ostrom, 1999). Current research therefore holds that noncompliance to regulations, such as poaching, constitutes a severe obstacle for efficient conservation (Dietz, Ostrom, & Stern, 2003). If efficiently managed, protected areas may be a successful conservation strategy (Nolte, Agrawal, Silvius, & Soares-Filho, 2013). This insight is important to keep in mind since the problem facing many protected reserves (terrestrial as well as marine) is that their supervision often is far from ideal. As stated by Gibson, Williams, and Ostrom (2005): "all too many "paper parks" have been created by legislation in a country's capital only to be destroyed by illegal harvesters in rural areas" (p. 275). There is hence a widespread suspicion that reserves in low-income countries are often malfunctioning in practice (see Edgar *et al.*, 2014; Halpern, 2014). Especially, the role of corruption—the misuse of public power for private gain in government authorities—has been said to be a factor contributing to the weak management of such conservation efforts (e.g., Robbins, 2000). However, more research is needed on the relationship between corruption in authorities enforcing conservation regulations and the extent to which these rules are adhered to. Smith, Biggs, St, John, and Barrington (2015) recently noted that current research on natural resource management may need to shift its focus: "The impact of corruption on conservation outcomes is often ignored" (p. 953).

Research suggests that perceptions of corruption among citizens negatively affect their intent to follow rules (Levi, Sacks, & Tyler, 2009). Yet, there are some knowledge gaps with regard to this process. Since such perceptions may in fact be a cue for opinions of how other people follow or violate rules (Tyran & Feld, 2006), this effect may be a proxy for the tendency to avoid free-riding rather than a direct effect in itself. Thus, it is not clear if there is an independent effect from corruption perceptions on rule-violating intentions. Moreover, studies have not investigated if the effect from corruption is stronger among certain individuals. Specifically, since the literature suggests that attitudes to the regulations that govern a certain resource are one important factor that determines intentions to follow or break rules (e.g., Jagers, Berlin, & Jentoft, 2012), it is reasonable to assume that users who are less supportive of regulations are also more affected by corruption perceptions.

The purpose of this article is, first, to examine if there is a direct effect from corruption on rule-violating intentions, independent of others' compliance behavior and, secondly, to investigate if this effect is moderated by an individual's support for regulations. To meet this aim, this study empirically explores the effect of corruption, others' compliance behavior and support for regulations on rule-violating intentions. In a between-subjects experiment, a sample of resource users active in South African small-scale fisheries ($N = 201$) answered questions about intentions to violate rules after reading one of four scenarios, each depicting a different situation of corruption among public inspectors and compliance behavior of other resource users.

This article proceeds as follows: The next section deals with theory and previous empirical findings. Section three describes methods and data. The fourth section then reports the results. The fifth section discusses these findings and some limitations of the study. The final section concludes by linking these results to the existing literature and suggests avenues for future research.

2. CORRUPTION AND RULE VIOLATIONS: THEORETICAL EXPECTATIONS AND EMPIRICAL FINDINGS

This article focuses on small-scale corruption, sometimes termed bureaucratic or petty corruption (Hellman, Jones, &

* Final revision accepted: April 26, 2016

Kaufmann, 2000). The type of small-scale corruption mostly discussed here, that is, bribes to enforcement officials to evade sanctions, is referred to as collusive corruption. This behavior can be separated from non-collusive corruption, where citizens have to pay bribes to access public services or documents they are legally entitled to without payments or delay (see Smith, Obidzinski, Wood, & Suramenggala, 2003). In a context of natural resource management, such actions may occur when a resource user gives a bribe (monetary or nonmonetary) to an enforcement agent in order to violate existing conservation rules without sanctions.

The term non-compliance is here used interchangeably with the term legal violations. They both denote violations of formal conservation rules. As stated by Arias (2015), compliance to conservation rules is a concept that may be viewed as a dichotomy, yet in practice the term refers to "the degree of adherence to rules, as when a person breaks some rules but not all, or respect most of the rules but not always" (p. 134). Such behavior has been the focus of a growing interest in criminology. For instance, Solomon, Gavin, and Gore (2015) note that "illicit or non-compliant human behaviors may occur in all ecosystems and range from subsistence illegal resource collection to poaching by organized criminal syndicates" (p. 1). Studying violations of conservation rules is possibly problematic as this risks putting the blame on poor while more powerful actors, which are engaged in a similar behavior but perhaps more resourced at hiding such practices, may continue with their behavior (Richards, Wells, Del Gatto, Contreras-Hermosilla, & Pommier, 2003). Moreover, conservation rules are not always well designed from a social point of view and may hurt the livelihood of people living in poverty (Irland, 2008). Yet, while acknowledging that conservation rules may have problematic social connotations, the assumption is that violations of formalized conservation rules are important to study because resources are more likely to be managed sustainably the larger the share of resource users that abide by usage and access regulations (Gibson *et al.*, 2005; Platteau, 2008).

Research identifies that corruption affects outcomes in natural resource management and conservation in two direct as well as three indirect ways: First, it may influence policymakers to refrain from enacting stricter legislation, for instance, to regulate pollution or the harvesting of a certain resource (Fredriksson, Vollenberg, & Dijkgraaf, 2004). Second, it could decrease the effectiveness of existing legislation during their phase of implementation, as bribery may hamper law enforcement and compliance to such rules (Smith & Walpole, 2007). The first indirect (and positive) effect pertains to the suppressing effect from corruption on economic development that, in turn, may create an overall lower pressure on environmental resources in a society (Damania, Fredriksson, & List, 2003). The second indirect effect is the possibility of political business cycles in which decision-makers, seeking political support, may send signals to bureaucratic actors to let rule violations go unsanctioned during electoral times (Min & Golden, 2014). The third indirect effect refers to the process in which funds to conservation projects are embezzled and, therefore, does not meet needs of protection (see Cavanagh, 2012).

Numerous empirical studies have focused on the aggregate relationship between national levels of corruption and different indicators of natural resource management and environmental goods—generally showing that corruption not only negatively affects ecological outcomes but also presenting some conflicting patterns that mainly relate to how sustainability is measured (see Halkos, Sundström and Tzeremes (2015) for a recent overview of the empirical findings in this cross-sectional literature). Notably, Barrett, Gibson, Hoffman, and McCubbins (2006) highlight that these studies are generally limited by the fact that they hardly can capture the complexity of this relationship using nation-level indicators. Contrasting to that macro-oriented literature, the present study examines this relationship on the micro-level and does so by specifically focusing on the impact from corruption on the abidance to conservations rules during their implementation.

A number of studies illustrate empirically how the impact from corruption on conservation management may take shape within different localities in regions as disparate as Africa, Asia, and Latin America; gifts to agents in forestry departments enable certain resource users to benefit from logging activities while others are excluded from such practices (Robbins, 2000); bribes to customs officers to circumvent trade bans on endangered species and thus enable smuggling of animals and plants across national borders (Smith *et al.*, 2003); illegal payments to government fisheries inspectors enable fishermen from distant coastal localities to encroach on resource regimes they are not allowed to access and to overharvest such local marine resources (Young, 2001); the hiring of "ghost employees" to protect terrestrial reserves and pocket this money instead of employing actual rangers (Cavanagh, 2012); the lax enforcement of conservation rules by such government inspectors (Smith & Walpole, 2007); bribes to clerks in administrative positions enable loggers the obtain permits to harvest resources (Gore, Ratsimbazafy, & Lute, 2013), to reuse permits for such purposes (Miller, 2011), as well as false export permits for such goods (Milledge, Gelvas, & Ahrends, 2007); and the actual involvement of corrupt public inspectors in illegal logging (Siebert & Elwert, 2004) and poaching activities (Sundström, 2015). Such actions obviously have severe consequences for natural resource management on the aggregate.

The complexity of collusive corruption in natural resource management is evident in several empirical in-depth studies from different regions. For instance, in Swat, Pakistan, forest officials collaborate with loggers to benefit from wood extraction that exceeds legal limits (Pellegrini, 2011). Similarly, a number of studies in different Indonesian localities suggest that corruption uphold local networks of sawmill agents, logging crews, government agents and military personnel, that together profit from engaging in illegal timber extraction (Bettinger, 2015; Palmer, 2001; Scotland, 2000). These patterns – in which officials collude with harvesters to benefit from illegal harvesting – are also evident from a number of studies focusing on forest extraction in sub-Saharan African countries, such as Kenya and Tanzania (Persha & Blomley, 2009; Standing & Gachanja, 2014).

Yet, although the literature provides plenty of illustrations of how corruption fuels the overuse of resources there are knowledge gaps in this body of research. Importantly, it was recently noted that "the connections between corruption and conservation remain an under-researched aspect of conservation scholarship" (Hanson & McNair, 2014, p. 313). As will be shown in the sections below, research is still facing particular knowledge gaps with regard to the effects from corruption on harvester's intentions to violate conservation rules.

With the specific focus on the relationship between small-scale collusive corruption and violations of rules, this study follows the tradition of a large literature that studies the factors contributing to why people obey the law (Levi, 1997; Tyler, 2006). Writings on compliance often stress factors of rationality—that rule obedience is a calculus of the expected gain from breaking such rules in relation to the costs and probability of getting caught and facing sanctions (e.g., Becker, 1968). According to this view "an individual commits