Towards an Analytical Framework for Forest Law Compliance

Author(s): S. Ramcilovic-Suominen and G. Epstein
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Towards an analytical framework for forest law compliance

S. RAMCILOVIC-SUOMINEN and G. EPSTEIN

1European Forest Institute (EFI) Torikatu 34, 80-100 Joensuu, Finland
2School of Forest Sciences, University of Eastern Finland, 80-101 Joensuu, Finland
3Workshop in Political Theory and Policy Analysis, Indiana University, 513 N. Park Ave., Bloomington, IN, 47408, USA

Email: sabaheta.ramcilovic-suominen@efi.int and gepstein@umail.iu.edu

SUMMARY

This paper proposes an analytical framework for forest law compliance to advance scholarly investigations of an important and growing problem. An inductive approach is taken to integrate the existing research on compliance in forestry with multiple theoretical models of rule compliance. Specific compliance models are drawn from economic, socio-institutional and psychological perspectives on compliance behaviour. The proposed framework highlights the individual as a decision-maker that is influenced by multiple motivations, which are in turn affected by external context specific variables. In general, the motivations that are proposed to influence the compliance decision include: instrumental benefits and costs, social and personal norms, and legitimacy. The degree to which each of these is incorporated in the decision-making process depends upon the social, political and economic variables that characterize the external environment. The analytical framework lays the groundwork for a structured research agenda on compliance in the forest sector.

Keywords: forest rule compliance, motivations, norms, legitimacy, commons.

Vers un Cadre de conformité avant la loi d’analyse des forêts

S. RAMCILOVIC-SUOMINEN et G. EPSTEIN

Cet article propose un cadre analytique pour faire avancer les études au sujet de la conformité aux règles forêt. Une approche inductive est prise pour intégrer la recherche existante sur la conformité dans le secteur forestier avec plusieurs modèles théoriques de conformité aux règles. Les modèles de conformité sont tirés des perspectives économiques, socio-institutionnelles et psychologiques. Le cadre conceptualise l’individu comme décisionnaire qui est influencé par des motivations multiples, qui sont à leur tour affectés par des variables externes et contextuelles. En général, les motivations qui sont proposées pour influencer la décision de conformité comprennent: les avantages et les coûts instrumentales, les normes sociales et personnelles, et la légitimité de régulation. La mesure dans laquelle chacun d’eux est intégré dans le processus décisionnel dépend des variables sociales, politiques et économiques qui caractérisent l’environnement extérieur. Le cadre analytique prépare le terrain pour un programme de recherche structuré sur la conformité dans le secteur forestier.

Hacia un marco analítico para el cumplimiento de la legislación forestal

S. RAMCILOVIC-SUOMINEN y G. EPSTEIN

El presente artículo propone un marco analítico sobre el cumplimiento del reglamento forestal para el avance de la investigación científica de un creciente problema de gran importancia. Se ha tomado un enfoque inductivo a fin de integrar la investigación existente sobre el cumplimiento legal en el ámbito forestal con múltiples modelos teóricos de cumplimiento de la legalidad. Se han trazado modelos específicos de cumplimiento según las perspectivas económicas, socio-institucionales y psicológicas sobre comportamiento respecto al acatamiento de las normas. El marco propuesto destaca al individuo como agente decisor influenciado por múltiples motivaciones, que a su vez están afectadas por variables externas específicas de cada contexto. En general, las motivaciones que se proponen para influenciar la decisión de cumplimiento incluyen: costes y beneficios instrumentales, normas sociales y personales, y legitimidad. El grado con el cual cada una de ellas se incorpora en el proceso de toma de decisiones depende de las variables sociales, políticas y económicas que caracterizan el ambiente externo. Este marco analítico sienta las bases para una agenda de investigación estructurada sobre el cumplimiento de la legalidad en el sector forestal.
INTRODUCTION

Illegal forest activities encompass a vast range of unlawful activities in the forest sector, from the occupation of forest land, to illegal harvesting, transportation, pricing, processing, and trading of forest products (Contreras-Hermosilla 2002, Tacconi et al., 2003). Illegal forest activities are recognized as one of the major threats to global forest resources (Brack 2003, SCA and WRI 2004). Negative impacts from these activities include degradation of forests and related goods and services (e.g. biodiversity, water and nutrient cycling, and climate regulation), loss of governmental and private revenues, and deterioration of forest related livelihoods (Contreras-Hermosilla 2002, Kaimowitz 2003, SCA and WRI 2004, Ramciulovic-Suominen et al. 2010, World Bank 2004).

Law compliance is an integral aspect of any governance system, and has a crucial role in supporting good governance and sustainable development (Zaelke et al. 2005, UN 2002). The concept of compliance can be defined as all behaviour by subjects or actors that conform to the requirements of behavioural prescriptions (Young 1979). While the extent and impacts of illegal forest activities are well covered in the literature, the factors and motivations that affect individual compliance behaviour are notably absent, and remain poorly understood (Hansen 2011, Tacconi 2007).

One of the main constraints impeding empirical research on compliance in forestry is the absence of an adequate theoretical foundation consistent with a multiple model perspective of human behaviour (Poteete et al., 2010). Explanations for compliance vary considerably with different schools emphasizing its economic (Becker 1968), social (Cialdini and Trost 1998), institutional (Ostrom 1990), behavioural (Jolls et al. 1998) and psychological (Tyler 1990, Tyler and Jost 2007) dimensions. There is a need for a comprehensive theoretical and analytical framework of compliance, which allows the models of compliance to coexist, despite underlying tensions and even some potential contradictions. Furthermore such a framework requires consideration of the existing literature on compliance in forestry, in order to situate the compliance decision within its appropriate confines.

This paper adopts an inductive approach that draws upon the literature on causes of non-compliance in the forest sector and the interdisciplinary theoretical literature on rule compliance. More specifically the paper reviews the literature on compliance in forestry to identify a comprehensive list of the most common sources of non-compliance in the forest sector. It then continues by reviewing different theoretical perspectives on rule compliance and emerges with three dominant models that collectively highlight a variety of individual motivations for compliance that generally consist of (i) instrumental benefits and costs, (ii) social and personal norms, and (iii) legitimacy. The last section of the paper integrates the theoretical reviews and the sources of non-compliance in forestry, to present an analytical framework of compliance in the forest sector. It is hoped that this framework will prove useful as scholars seek to test hypotheses suggested by different models of behaviour and move towards a more complete understanding of compliance and the factors that influence human decisions in relation to forest rules.

SOURCES OF NON-COMPLIANCE IN FORESTRY

The forest compliance literature has grown in recent years. However, most of this literature composes of policy research (e.g. policy analysis). Currently, there is a considerable lack of theoretically informed empirical research on sources of non-compliance in the forestry sector. The literature on rule compliance in forestry that specifically focuses on the sources of non-compliance is reviewed (Blaser 2010, Brack 2003, Contreras-Hermosilla 2002, Contreras-Hermosilla and Peter 2005, Hirakuri 2003, Kaimowitz 2003, Kishor and Damania 2007, Peluso 1992, Tacconi 2007a, Tacconi et al. 2003, World Bank 2006). Majority of these studies are policy-level studies dealing with the issues at a highly generic level. The reviewed literature emphasises the context dependent nature of compliance, highlighting the economic, social, institutional and cultural aspects. What follows is a review of the main sources which are considered to factor into an individual’s compliance decision and includes; while other aspects and conditions (e.g. lack of baseline) are omitted from the list. While acknowledging the possibility of some overlap between categories, the proposed categories seek to minimize within-group variation while maximizing the variation between the groups.

The studies reviewed in this section adopt a global perspective, but focus mostly on countries with high rates of illegal forest activities, including the following regions: the Amazon, Central Africa, Mesoamerica, Southeast Asia and West Africa; with some consideration of European contexts. While the emphasis on areas with high rates of non-compliance does introduce the possibility of a selection bias; the sources all share a certain level of inherent plausibility given that forest non-compliance is more common and severe in developing, compared to developed, countries. The specific sources of non-compliance identified in Box 1 are discussed below.

1. **Regulatory constraints** refer to the inherent constraints imposed by the design of forest policies and legal frameworks. Specific constraints include flawed and contradicting policies, where the lack of clarity creates opportunities for bypassing de jure requirements (Blaser 2010, Contreras-Hermosilla and Peter 2005). Additionally laws that fail to reflect and fit the situation on the ground, in terms of other formal laws and practices, may impose de facto barriers to legality (Contreras-Hermosilla and Peter 2005, Kishor and Damania 2007). Forest laws are often a product of international, national, and sub-national agreements, which may or may not be reflected in the local de facto rules and may cause implementation problems.

2. **Capacity of political and legislative authorities** refers to the efficiency and effectiveness of forest authorities in performing their assigned duties to influence compliance behaviour. Insufficient and ineffective monitoring and enforcement capacities were found to be a reason for non-compliance in almost all of the reviewed studies. Inadequate inter and intra-agency coordination further limits the capacity
of governmental agencies to organise and strengthen law enforcement (Contreras-Hermosilla and Peter 2005). Unsupervised local forest officers, with responsibilities going beyond their capacities, often abuse their positions, indulging in corruption and illegal forest activities (see for e.g. Kishor and Damania 2007). Finally, Contreras-Hermosilla and Peter (2005) as well as the World Bank (2006) find the lack of conflict resolution capacity in forest agencies to be a major obstacle for establishing a good relationship between the forest users and fostering trust-building within groups of forest users. The motivation for compliance decreases with an increased awareness about the low capacities of the relevant authorities to enforce the laws. The lack of capacities to resolve conflict among forest users directly lead to lack of cohesion and cooperation within and between the groups and feeds ill behaviour.

3. **Corruption** is often referred to as ‘the special case of illegal forest activities’ (Kishor and Damania 2007). Most of the reviewed studies acknowledge the role of corruption as the major factor facilitating non-compliance. It is a self-reinforcing phenomenon, which to varying extent influences many other sources of non-compliance. For instance, it weakens law enforcement capacities, lead to disrespect for property rights, increases economic incentives for non-compliance, advances forest conflicts and weaken transparency and accountability. The World Bank (2006) specifically emphasises the problem of corruption with respect to law enforcement and financial audit systems. Monitors may accept bribes on their own to overlook certain unlawful activities by other actors, or may simply form part of a corruption chain that extends to higher levels of government. On the other hand, monitors may simply draw their salary and renege from their monitoring responsibilities.

4. **Property rights.** Vaguely defined and conflicting property rights are obviously difficult to enforce. On the other hand, property rights reforms are complex with high economic and societal costs. Thus unclear ownership and use rights remain an important source of non-compliance, as documented by most of the reviewed studies. Resource users that lack legally enforceable claims to the forest have little incentive to comply with regulations, particularly when enforcement is weak. Similarly users that maintain tenuous claims to a forest according to the prevailing legal system may find it in their interest to disregard regulations or risk losing the rewards of management efforts. An additional challenge worth mentioning is the legal plurality, or parallel existence of divergent statutory and traditional rules that regulate forest ownership, management, and use rights to forest.

5. **Markets and trade:** Market price distortion of wood products is a cause, as well as effect of illegal forest activities, especially with regards to illegal logging (Brack 2003). The availability of cheap, illegal timber provides an unsustainable and distorted market signal, making timber that is legally sourced uncompetitive, and consequently hindering incentives for its production. Related problems include high demand for cheap timber (Contreras-Hermosilla and Peter 2005) and a lack of demand for explicitly legal timber (World Bank 2006). Finally, the generally strong demand from timber producing countries, which in turn promotes illegal logging (World Bank 2006).

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**BOX1: Commonly cited sources of non-compliance in the forest sector**

<table>
<thead>
<tr>
<th>Category</th>
<th>Commonly Cited Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regulatory constraints</td>
<td>- Contradictory forest policies&lt;br&gt;- Unrealistic policies&lt;br&gt;- Onerous bureaucratic ‘red-tape’</td>
</tr>
<tr>
<td>Capacity of authorities</td>
<td>- Weak monitoring and enforcement&lt;br&gt;- Insufficient cooperation and coordination within and between sectors and agencies&lt;br&gt;- Allocation of broad discretionary powers&lt;br&gt;- Lack of conflict mediation capacities</td>
</tr>
<tr>
<td>Corruption</td>
<td>- Corrupt monitors&lt;br&gt;- Corruption throughout the production process and organizational hierarchy</td>
</tr>
<tr>
<td>Property/Ownership</td>
<td>- Uncertain forest tenure&lt;br&gt;- Legal pluralism</td>
</tr>
<tr>
<td>Markets and trade</td>
<td>- ‘Missing’ market signal&lt;br&gt;- Strong domestic/international demand&lt;br&gt;- Lack of legality sensitive markets (high demand for cheap timber and low demand for legal timber)</td>
</tr>
<tr>
<td>Economic incentives and disincentives</td>
<td>- High individual incentives for non-compliance&lt;br&gt;- Low risk of sanction</td>
</tr>
<tr>
<td>Perceived fairness of legislation</td>
<td>- Unfair design, enforcement and practicing of law&lt;br&gt;- Incompatibility with traditional customary rights and/or practices&lt;br&gt;- Marginalisation and disempowerment of local indigenous population.</td>
</tr>
<tr>
<td>Forest culture</td>
<td>- Tradition of forest management and protection&lt;br&gt;- Lack of long term strategies/planning for forest resource management&lt;br&gt;- Arising from lack of policy consistency</td>
</tr>
<tr>
<td>Transparency and accountability</td>
<td>- Arbitrary decisions of governmental agencies</td>
</tr>
<tr>
<td>Forest conflicts</td>
<td>- Forest conflicts and disputes&lt;br&gt;- Armed conflicts</td>
</tr>
<tr>
<td>Poverty and livelihood needs</td>
<td>- Inability to meet basic subsistence needs&lt;br&gt;- Lack of alternative livelihoods</td>
</tr>
</tbody>
</table>
6. Economic incentives and disincentives refer to the instrumental incentive structure that forest users face when making decisions about compliance. Contreras-Hermosilla (2002), Kishor and Damania (2007), Tacconi (2007a), and the World Bank (2006) find that in many countries the rents from illegal logging are quite high, and contrast significantly with the probability of incurring sanctions. In such a situation, the rational choice model of human behaviour suggests that individuals would opt for the illegal harvesting alternative. This is an especially important reason for non-compliance for the timber industries, where the main objective is typically maximization of economic profit.

7. Fairness of legislation refers to the capacity, willingness and alternatives available to rule makers to design, implement, and enforce a fair and non-discriminatory forest policy and legislative framework (Tacconi 2007a, Tacconi et al. 2003, World Bank 2006). Legislation that does not recognise local and traditional customary rights, marginalizes local/indigenous populations and affected users tends to fuel dissatisfaction, leading to resistance in the form of rule violation (Peluso 1992, World Bank 2006). Hirakuri (2003), in her comparative study of forest law compliance systems in Finland and Brazil, identified the perceived fairness of political authorities as one of the three major factors responsible for different patterns of compliance in these two countries.

8. Forest culture is broadly defined as a tradition of forest use and management. Many countries lack the tradition of forest protection and long term forest planning. Historically forests were seen as an obstacle for development and an indicator for lack of development (Amanor 1996). Traditions of long-term forest planning, and proper forest management is still missing in many developing tropical forest countries (Contreras-Hermosilla 2002, Hirakuri 2003). Similarly many cultural practices such as slash-and-burn agriculture are part of the historical forest culture, but are seen as no longer viable due to increased pressure from a growing population.

9. Transparency and accountability is related to a number of other sources of non-compliance, such as corruption and broad discretionary powers. The reviewed studies highlight the arbitrary and opaque decision-making processes used by governmental and private agencies (e.g. police, military, timber industry, or local decision makers) and other actors that occur in the absence of public disclosure requirements (Contreras-Hermosilla and Peter 2005, Kishor and Damania 2007). Further, lack of transparency in processes, such as allocation of timber utilisation contracts to companies, reporting on the felling of timber trees and benefit sharing practices by timber companies, are all reasons which motivate forest companies to compromise and bypass forest rules.

10. Forest conflicts are in essence linked to multiplicity of functional aspects and potential uses of forest resources, which often implies multiple types of users with different and often conflicting interests (Contreras-Hermosilla and Peter 2005). Conflicts over forests are aggravated by asymmetries of power, which in some cases can result in armed conflict (Kaimowitz 2003, World Bank 2006). For the most part, however, conflicts remain latent for a long period of time, simmering occasionally before returning to a status quo where forest resources are distributed unequally and de facto policies favour short-term economic interests over long term benefit streams.

11. Poverty and livelihood needs as a cause of illegal forest activities is mainly relevant for the small-scale, mostly subsistence loggers and communities, with respect to tree felling, slash-and-burn agricultural practices, and wildlife poaching (Peluso 1992, Scott 1985, World Bank 2006). Poverty may not in and of itself lead to non-compliance, but may alter the way in which individuals approach the compliance decision.

These groups of sources of non-compliance reveal a complex, yet highly interconnected set of variables that influence compliance decisions in the forest sector. Perhaps more interesting is the observation that many of these variables, such as markets and trade, property rights and regulatory constraints, are not specifically related to individual-level motivations. Instead these variables provide a context that may emphasize short-term economic interests over long-term societal interests. Most of these variables influence compliance behaviour indirectly, by influencing the individual motivational factors, i.e. instrumental incentives, norms and legitimacy. Thus, it is considered that an analytical framework for forest law compliance should distinguish between personal motivations and contextual variables that influence motivations.

THEORETICAL MODELS OF RULE COMPLIANCE

Theoretically inspired models of individual rule compliance have emerged from a wide array of academic disciplines resulting in a patchwork of sometimes competing, yet often complimentary models. This mirrors a similar transition in the behavioural sciences where the early emphasis on a single all-encompassing model of human behaviour has been supplanted by a growing consensus that human decision-making can be better understood by adopting a multiple model approach that incorporates a broad range of social and contextual influences (Henrich et al. 2001, Poteete et al. 2010). While there are a number of potentially salient models; scholars investigating rule compliance in general, and compliance in natural resource management, in particular, tend to emphasize three major models. These include the instrumental (or economic) model; and two normative models that reflect influences emerging from social institutions (the social rules and norms of human society) and the political environment (legitimacy of authorities, with regards to the rules they make and the rule-making processes).

The Instrumental Compliance Model

The instrumental compliance model proposes that individuals respond to the distribution of potential benefits and costs associated with compliant vs. noncompliant alternatives. It is also commonly known as the ‘general deterrence model’ (Becker 1968) since compliance is typically encouraged by
influencing the cost side of the calculation through a combination of monitoring and sanctioning to deter individually rational, but socially inferior outcomes. Rigid interpretations of this model suggest that individuals will only comply when the expected costs, calculated as the product of the perceived probability of detection and expected sanction, exceed the expected benefits of the non-compliant alternative (Gordon 1954, Young 1979). While most behavioural scholars acknowledge that instrumental motivations play a role in the compliance decision, observations of higher than expected levels of compliance in a wide array of public good and common pool resources (CPR) settings refutes the universality of the instrumental model (Bobek et al. 2007, Gezelius 2002, Nielsen and Mathiesen 2003, Scholz and Lubell 1998, Viteri and Chávez 2007). Nevertheless the instrumental model retains its dominance, particularly in those situations where interpersonal communication and mutual trust are absent (Ostrom 1998, Ostrom et al. 1999).

Institutional and Norm-Oriented Models of Compliance

Many scholars seeking to explain discrepancies between the instrumental model and field observations highlight the role of institutions – the socially constructed rules and norms of human society. While some institutionalists conceptualize institutions as constraints (North 1990); others view them as normative preferences that individual’s value in-and-of themselves (Andreoni 1989, Gintis 2009, Gintis et al. 2003). Still there are other interpretations such as that of Vatn (2009) who proposes a plurality of rationalities, roughly categorized as ‘I’, ‘We’, and ‘Them’ rationality, where the type of rationality represents the object whose interests are served. Whereas the former models build upon the rational-choice tradition and apply normative parameters to alter the calculation of individual benefits and costs; the plural rationality approach allows the object of rationality to vary, while leaving the instrumental calculus more or less in place. In any case the institutions-as-constraints, institutions-as-preferences, and institutions-as-rationalities approaches can often lead to similar predictions via distinct theoretical paths; while in other cases the approaches can be used in a complimentary fashion.

Scholars that conceptualize institutions-as-constraints would highlight the role of formal and informal social sanctions (or pressure) in the compliance decision (Coleman 1987). The self-interested actor that dominates this school considers instrumental benefits and costs; but adjusts these values to reflect costs of the non-compliance alternative such as the loss of social status, exclusion, or other forms of social sanctions. Compliance occurs when groups adopt norms that attach sufficient social sanctions to overcome the instrumental difference between compliant and non-compliant alternatives. The institutions-as-preferences school would counter this argument by suggesting that individuals learn to adopt norms such as reciprocity and inequity aversion and prefer outcomes that satisfy certain normative conditions (Gintis 2009). The individual that adopts a reciprocity norm learns to value interpersonal trust and will comply when their peers have developed a reputation for trustworthiness (Ostrom 2005). Individuals that adopt inequity aversion norms, on the other hand, value equality and are more concerned with how instrumental outcomes are distributed within groups (Fehr and Schmidt 1999). While reciprocity and inequity aversion manifest themselves in a wide range of cultures (Henrich et al. 2001, Gintis 2009); the number of possible moral preferences or values is quite large given their culturally embedded nature.

The institutions-as-rationalities approach complements the other institutional approaches by highlighting the importance of context in guiding the application of normative values to particular choices. The essential proposition is that context shapes how individuals evaluate alternatives, and that different contexts can serve to activate or ‘crowd-out’ normative influences (Frey 1997, Vatn 2005). A commonly cited case that illustrates this is the observation of a drop in blood donations when donors were paid as compared to donors who gave their blood voluntarily (Frey 1997). The rationalities approach would suggest that monetary compensation shifted the decision from a “We” to an “I” rationality; while the preferences approach would suggest that normative preferences were “crowed-out” in favour of instrumental concerns. Whereas the differences between the rationalities and preferences approach are significant and are ultimately incompatible; the predictions they make are often indistinguishable.

Norms are widely discussed in the social (Cialdini and Trost 1998, Elster 2009) and economic literature (Posner 1996, Posner 1997) on rule compliance, and often depart from the institutional tradition to specifically focus on norms as they influence everyday behaviour in a more general sense. Norms can be defined as commonly accepted prescriptions that support desirable behaviours and forbid those that have been deemed undesirable (Cialdini and Trost, 1998, Hatcher and Pascoe 2006). Although there appears to be little consensus in the literature, a general distinction can be made between social and personal norms (Hatcher and Pascoe 2006). Social norms are those that are understood and accepted by members of a group, and that guide and/or constrain behaviour in a social space (Cialdini and Trost 1998). Behaviour can be controlled through perceived external factors, such as peer pressure and disapproval (Posner 1996, Posner 1997); or by internalized reward and punishment mechanisms (Andreoni 1989, Crawford and Ostrom 1995, Gintis 2009). Personal norms, on the other hand, concern one’s own ethical values, irrespective of the actions of others. A common understanding is that personal norms are

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1 Crowding theory is based on the notion that people care for issues of self-determination without rewards and monetary incentives (Frey 1997). Furthermore, monetary rewards are expected to undermine voluntary positive behavior when they impair self-determination and self-esteem.
principles (or morals) that have been internalised by an individual; so, that they influence behaviour even in the absence of external factors (Deci and Ryan 2000, Hatcher and Pascoe 2006, Posner 1997). The influence of norms on compliance is facilitated by the phenomenon of general conformity (Cialdini and Trost 1998), whereby groups of individuals tend to adopt similar norms and the actions that they prescribe. General norm conformity challenges the notion of personal norms in some respects by indicating that both the adoption and erosion of a norm depends upon the social environment (Honneland 1999, Kuperan and Sutinen 1999). However, it should be noted that in practice – unlike in theory – the dividing line between social and personal norms is often impossible to observe.

Legitimacy and Compliance

The third major stream of compliance theory and research emphasizes the relationship between legitimacy and compliance (Feld and Frey 2007, Grimes 2006, Jentoft 2000, Nielsen 2003, Tyler 1990, Viteri and Chávez 2007). Legitimacy is a rather nebulous and ever-evolving concept that essentially speaks of the consent of the governed and their willingness to accept political authority. This consent is proposed to occur when the process that is used to make laws (Tyler 1990) and the properties of the laws (Nielsen 2003) lead individuals to internalize an obligation to obey the rules. While some have suggested that legitimacy is compatible with the institutions- as-preferences approach and thus norms (Frey and Stutzer 2005, Frey et al. 2004); others tend to handle the concepts separately (Nielsen 2003, Jenny et al. 2007, Tyler 1990). Tyler (1990:4) clarify the distinction between norms and legitimacy by noting that “normative commitment through personal morality means obeying a law because one feels the law is just; normative commitment through legitimacy means obeying a law because one feels that the authority enforcing the law has the right to dictate behaviour”. Thus, according to Tyler legitimacy is about authority, while norms are about the laws per se”.

Scholars dealing with legitimacy distinguish between procedural legitimacy, distributive or outcome legitimacy, and political legitimacy. Procedural legitimacy (Blader and Tyler 2003, Tyler 1990, Tyler 2006) focuses on how collective decisions are made and investigates the relationship between procedural factors such as participation, transparency, accountability on individual compliance behaviour. Theories of procedural fairness suggest that individuals are more likely to comply with rules when decision-making processes encourage representation, openness and dialogue, and involve accountable local representatives (Anderies et al. 2004, Nielsen 2003, Jenny et al. 2007, Tyler 1990, 2006). While related to process, outcome legitimacy is often considered separately to highlight factors related to favourability of regulatory outcomes, including: their distributive properties, origin, coherence and complementarity to existing practices (Nielsen 2003). In general, rules, which distribute fairly favourable outcomes have an increased likelihood of individual compliance (Jentoft 1989, Kuperan and Sutinen 1999, Nielsen 2003, Ostrom 1990). Finally, political legitimacy is a slightly more abstract concept that incorporates elements of process and content of rules, but is expanded to include measures related to the political leaders themselves – their worthiness to assume positions of authority and congruence with their constituent’s morals and expectations (Suchman 1995, Tyler 2002).

TOWARDS AN ANALYTICAL FRAMEWORK FOR FOREST LAW COMPLIANCE

The literature on compliance in forestry and the three theoretical models of rule compliance are integrated in Figure 1 to present an analytical framework of compliance in the forest sector. The figure highlights two key areas, namely (i) motivations at the individual level, consisting of instrumental considerations, norms, and legitimacy – as factors of compliance, and (ii) the external, context specific aspects – as variables of compliance. While the models emerging from a theoretical tradition tend to emphasise motivations at the individual-level; it appears that the emerging research on compliance in forestry tend to emphasise the external environment, or context in which decisions are made. The ‘missing-link’ that brings together these divergent trajectories comes from the institutions-as-rationalities approach, which – as discussed in the theoretical section of this paper – explicitly view the context as a catalyst (or inhibitor) for the motivational structure and evaluation of alternatives (Vatn 2005, 2009). More specifically, changes in contextual variables are expected to affect specific individual motivations for compliance and their relative influence on the actual compliance behaviour. For instance, a context specific variable, such as corruption, is likely to influence the likelihood and fear of sanction, if it is realized that sanction can be avoided by informal payments to law-enforcement agencies.

This framework suggests that the motivational structure of the compliance decision consists of some combination of instrumental incentives, norms, and legitimacy. The instrumental incentives category consists of three major factors: costs, benefits, and discount rate. Benefits and costs specify a short-term calculation of benefits in the form of expected legal and illegal harvests, as well as the expected costs of instrumental sanctions. The discount rate that individuals attach to future resource flows is another critical factor that could undermine compliance if users’ time horizons are short (Ostrom 1990), or resource users adopt a ‘roving bandit’ approach to harvesting (Berkes et al. 2006). It should be noted however, that costs, benefits and discount rates are not necessarily homogenous across individuals. They too are subjects of human judgment, and depend on social norms and personal values (Berkes 2004, Ostrom 1990).

Institutional and norm-oriented models of compliance highlight two salient classes of norms; namely social norms, and moral or personal norms. Norms can vary considerably across cultural contexts; however, reciprocity norms are particularly noteworthy class as they appear widespread (Henrich et al. 2001, Ostrom 1998); and are particularly important for users facing appropriation decisions in the
commons. In addition, inequity aversion and various forms of social sanctioning which have received comparably less attention in the commons literature merit a place alongside reciprocity given a fairly large, and growing body of supporting evidence (Ahn et al. 2003, Coleman 1987, Gintis 2009).

Following Nielsen (2003) the factors that constitute legitimacy are divided between process (procedural legitimacy) and outcome (outcome legitimacy). The factors that affect procedural legitimacy include participation, representation, transparency and accountability of the rule-making process (Tyler 1990, 2006). Outcome legitimacy is related to the quality and practical implications of rules for the forest users (Nielsen 2003, Nielsen and Mathiesen 2003). Important considerations include the distributional effects of rules, consistency, and coherence. Distributional effects speak to the distribution of property and/or management rights within groups of forest users. Consistency describes the degree to which forest rules complement existing rules and practices, other laws and/or the ease with which forest users can adapt to them. Finally coherence refers to perceptions among forest users that rules are meaningful in a broader context, and will contribute to the larger management objectives, such as regeneration of forest stocks and deforestation problems.

The context-specific variables are drawn from the sources of non-compliance in the forest sector that were discussed in more detail in section 3. Some of those sources – such as economic incentives and political transparency – were subsumed by individual-level motivations. The variables that collectively constitute the external environment include regulatory constraints, political capacity, corruption, property-rights, markets, forest culture, conflicts and poverty (Fig 1). They are expected to influence compliance decisions by altering the motivational structure (i.e. costs, benefits, discount rate) of the alternatives. More specifically changes in these variables are expected to affect the types and relative influence of the motivations that guide individual compliance decisions. For instance, a shift towards participatory governance where property rights are shared to varying degrees may enhance compliance by activating an individual’s desire for legitimate decision-making processes (Nielsen 2003); and also increases the likelihood that rules are perceived to be fair. Markets, on the other hand, can alter the instrumental distribution of benefits and costs in a variety of ways. Changes in demand can undermine compliance when the value of forest products increases; or a reduction in value leads impoverished forest users to harvest more, in order to maintain their tenuous livelihoods. Poverty can also act to reduce or eliminate the application of social sanctions to non-compliant behaviour if users disobey rules as a function of subsistence needs rather than commercial gain (Gezelius 2004). Finally, corruption is expected to have a wide range of effects on the motivational structure of the compliance decision. First of all, if a user believes that they can escape larger sanctions through smaller bribes, the expected instrumental costs of non-compliance are thereby reduced. On the other hand, perceptions of corruption can severely undermine motivations related to legitimacy and influence the application of social and personal norms in relation to forest rules.
APPLICATIONS AND IMPLICATIONS FOR RESEARCH AND POLICY

This section outlines potential applications and general considerations for use of the analytical framework and its relevance to forest policy. The framework advances further theoretical and analytical developments in the field of forest law compliance, as well as empirical studies of the factors and variables associated with compliance. For instance, assuming that individual motivations for compliance (e.g. social norms, legitimacy, instrumental benefits and costs) change with the change of context, it is important to examine how the contextual variables (e.g. corruption, market price, forest culture) activate each of the individual motivations. Applications of the framework that seek to identify contextual effects on compliance decisions may compare different regions or states that vary in terms of their socio-economic, political and legal conditions. In particular the effects of regulatory constraints, corruption, forest user conflicts and poverty on compliance are currently vaguely understood. Furthermore the framework can be used to explore variance in motivations for compliance across different user groups (e.g. small-scale forest communities and large-scale timber industries). It is likely that individuals and groups will vary in terms of the motivations that shape their compliance decisions, with some groups notably responding to the application of sanctions; while others to social norms or regulatory legitimacy. The level to which each motivation influences different forest users will also depend upon the main use objectives and time horizons of forest users with regards to forest (short-term profit making vs. long-term sustainable use of resources). For this purpose, studies that investigate compliance in a variety of static and dynamic contexts are needed.

With regards to the influence of social norms, the framework equips scholars to identify the conditions under which different normative influences are activated. For instance, it has been suggested that social norms such as reciprocity play a more significant role in small group settings where information about the norm is shared more readily, and adherence to that norm is observed more rapidly. Thus, smaller groups of forest users that have a history of collaboration and high sense of trust will more strongly rely on the normative than on the instrumental factors of compliance (Ostrom 1990). Finally, an assumption built into the framework that requires further testing is the role of legitimacy on compliance behaviour. Specifically, it is important to address whether legitimacy forms a separate and distinct motivation of compliance, or it is only responsible for the activation of other normative motivations – such as norms of fairness or reciprocity. Whereas the framework and the vast majority of the literature propose a direct relationship between legitimacy and compliance, up to this point studies that address the influence of legitimacy specific factors on compliance in forestry are largely missing.

The framework can be used to explore compliance at various levels including that of the individual, group, or an organization. Furthermore, the theoretical perspectives of compliance that constitute the base of the framework can be adapted to investigate compliance in other fields. However, given the context-specific design of this framework, it is critical that adaptations to other situations focus carefully on the selection of adequate context specific variables, as well as the interplay between motivations and contexts.

Although the main purpose of this framework is to inform further research on compliance in the forest sector, the framework may also provide some lessons for policy makers. The major policy implications follow from the theories of compliance outlined in the paper. The laws and policies regulating the use and management of forest and natural resources in many countries have been dominated by deterrence model; which suggests that individuals and firms in their compliance decisions are entirely motivated by short-term instrumental benefits and costs. The theories presented in this paper, as well as much of the outlined research show that, while deterrence strategies may positively affect compliance, they may also be counterproductive; especially in the absence of legitimacy, fairness, procedural and distributive justice. The framework echoes this proposition by suggesting a wide range of factors of compliance, which – along instrumental profit-oriented factors – also explain compliance behaviour: i.e. norms, values, moral obligations, legitimacy of ruling authorities. Therefore, efforts to resolve compliance problems should consider enhancing of normative aspects in appropriate contexts, in addition to the conventional prescription of monitoring and sanctioning. A better understanding of compliance is especially important for the emerging international forest policy instruments and efforts, such as the European Union’s Forest Law Enforcement, Governance and Trade (FLEG) Action Plan, and the Reducing Emissions from Deforestation and Forest Degradation Program (REDD+). The major objectives of FLEG (i.e. compliance with agreed forest legal requirements towards sustainable use of forest resources) and REDD+ (i.e. halting deforestation and forest degradation, enhancement of forest carbon stocks, natural conservation and sustainable forest management), as well as their impacts on the ground directly depend on the extent to which they manage to promote and ensure forest law compliance among forest users.

CONCLUDING REMARKS

The analytical framework of compliance proposed in this paper advances the forest law compliance literature by providing a robust, interdisciplinary perspective for academic studies, and complements existing frameworks designed for fisheries (e.g. Nielsen 2003, Kuperan and Sutinen 1999). Its primary advance lies in its recognition that compliance is a function of multiple individual motivations that are in turn affected by variables at higher levels of aggregation in society. Furthermore the framework outlined in this paper presents researchers with an opportunity to go beyond the construction of detailed lists that outline causes of non-compliance, to a more structured approach where hypotheses related to variables, motivations and their interactions can be tested. A key theoretical question uncovered in this paper is
whether legitimacy forms part of the motivational structure at individual level, or whether it is simply responsible for activating other normative motivations such as reciprocity. Finally, the framework is an important device to help scholars overcome the twin analytical traps that either propose panacea solutions, or proclaim that each case is so unique that any generalizations are futile (Basurto and Ostrom 2009).

The framework presented in this paper should be considered, first and foremost, as a set of conjectures that await future study and elaborations. Some of these conjectures, such as the prediction that the probability of compliance increases with the severity of expected fines takes the form of a strongly supported hypothesis. Others, however, remain hardly explored (e.g. the role of specific legitimacy variables on compliance behaviour). The challenge that continues to elude compliance scholars and that leads to broad and overlapping sources of non-compliance in the forensic compliance literature is the absence of theoretical and analytical framework that puts the pieces together to derive testable hypotheses. The framework presented in this paper provides such an opportunity, and it is hoped that studies of compliance in the world’s forests can be enhanced by collective explorations of hypotheses towards a better theory of compliance that can support policy and decision-making for sustainable use of global forest resources.

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