Historical development of institutional arrangements for forest monitoring and REDD + MRV in Peru: Discursive-institutionalist perspectives

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ABSTRACT

The goal of reducing emissions from deforestation and forest degradation, and the roles of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries (REDD +) under UNFCCC has triggered a new discussion on forest resource assessments in these countries. The international process on measurement, reporting and verification of REDD + outcomes (REDD + MRV) expands the scope of forest inventories to include quantification of forest carbon stocks and their changes for results-based REDD + payments. UNFCCC decisions also specify methods to be used, and actors to be involved. Although forest management in developing countries has clearly been influenced by international processes in the past, exactly how and to what extent REDD + MRV has affected institutional arrangements for forest assessments in developing countries remains unknown. Using as a theoretical framework Discursive-Institutionalism, a concept derived from political science, this paper examines (1) the historical evolution of institutional arrangements for forest inventories in Peru; and (2) how and to what extent their development has been shaped by international processes on forests, and, more recently, specifically by REDD + MRV. The findings show that the international REDD + MRV discussion has expanded the objectives of forest assessments in Peru, inspired the mobilization of new actors and resources, and spawned the development of new protocols for forest assessments. However, the 'depth' of these changes is not yet extensive, since the new rules for forest inventories have not yet been formally adopted, and the institutes envisaged to implement forest inventories, including measurement of carbon stocks and their changes, have not been established.

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1. Introduction

Forest resource assessment in developing countries is becoming a concern for the international community. This is driven by the increasing recognition of the role that forests could play in mitigating global environmental challenges such as climate change, and the attendant need for information on developing countries' forests at the national and international level. This need has sparked investments in national forest monitoring systems in several developing countries (Joseph et al., 2013b; Korhonen-Kurki et al., 2013; Minang et al., 2014; Romijn et al., 2015). Studies show that these investments have improved technical and institutional capacity for forest resource assessments in some

countries. However, unlike in some developed countries where some forms of national forest inventories have been conducted, sometimes already for several centuries (Holmgren and Persson, 2002a, 2002b; Lund, 2016; Tomppo et al., 2010); Xie et al. (2011), national forest surveys in developing countries started only recently (see FAO, 1993; Janz and Persson, 2002). Nevertheless, early national forest inventories mainly quantified forest area, growing stock and, rarely, changes over a time period (Holmgren et al., 2007; Holmgren and Persson, 2002a, 2002b; Mohren et al., 2012; Tomppo et al., 2010). Over time, however, the range of variables included forest cover change, forest biodiversity, socio-economic uses of forests, and non-timber forest products (NTFPs), among others (Holmgren et al., 2007; Holmgren and Persson, 2002b; Lei et al., 2009; Mohren et al., 2012).

Although the variables included in national forest surveys have been influenced by international developments (Holmgren and Persson, 2002a, 2002b; Lei et al., 2009), the recent United Nations Framework Convention on Climate Change (UNFCCC) decision on reducing emissions from deforestation and forest degradation, and the role of conservation, sustainable management of forests and enhancement of forest

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carbon stocks in developing countries (REDD+) (see UNFCCC, 2013a; UNFCCC, 2013b) has triggered new national discourses on forest inventories in developing countries. Specifically, the international process on REDD+ measurement, reporting and verification (REDD+ MRV) has introduced new elements into forest inventories. First, REDD+ MRV expands the scope to include forest carbon stocks and their changes for possible results-based REDD+ payments. Second, it specifies techniques, such as remote sensing (RS) and ground-based methods (UNFCCC, 2009). Third, it advocates new participants, including state actors from and beyond the forestry sector, as well as the private sector and indigenous and local communities (Brockhaus and Angelsen, 2012; UNFCCC, 2009). UNFCCC decisions on REDD+ MRV are likely to spawn new or restructuring of existing institutions for quantifying forest carbon, and, possibly, other forest attributes of national or international interest. The UNFCCC explicitly calls on developing countries wishing to receive results-based REDD+ payments 'to establish national forest measurement systems' (UNFCCC, 2009, p. 12) to measure and report their forest emission reductions/removals.

Although the development of forest inventories in developing countries has been examined in terms of technical aspects, such as sampling strategies, plot designs, use of RS and information technologies, et cetera (Hansen et al., 2008; Holmgren and Persson, 2002a; Joseph et al., 2013a; Lei et al., 2010; McRoberts and Tomppo, 2007; Romijn et al., 2012; Tomppo et al., 2010; Xie et al., 2011), exactly how and to what extent the international discussion on REDD+ MRV has shaped institutional arrangements for forest measurements in developing countries is unknown. This paper aims to bridge this knowledge gap by examining: (1) the historical development of institutional arrangements for forest assessments in Peru; and (2) how and to what extent the evolution of these institutional arrangements have been shaped by international processes on forests, especially REDD+ MRV. The next section outlines the analytical framework, including Discursive Institutionalism (DI) and the Policy Arrangement Approach (PAA), used for the analysis. Section 3 justifies selecting Peru as a case study, and describes study methods. Section 4 discusses the development and evolution of institutional arrangements for forest inventories in Peru before REDD+ from the 1950s to the early 2000s, followed by institutional changes caused by the international REDD+ MRV process. Section 5 discusses the results from our research on the case study of Peru in a broader context.

2. Discursive institutionalism and the policy arrangement approach

Although forest resource assessments for REDD+ are often regarded as technical and apolitical, the REDD+ MRV concept is not entirely an apolitical, neutral scientific phenomenon (Gupta et al., 2012; Visseren-Hamakers et al., 2012). What is to be measured, reported and verified, who is to be involved and what methods are to be used is determined in a political process (Lövbrand and Stripple, 2011; Wertz-Kanounnikoff and McNeill, 2012), which involves negotiations and potentially conflicts and power games. As such, an analysis of REDD+ MRV at national and international levels require a political theoretical perspective.

We use Discursive Institutionalism (DI), a framework from political science, to analyse REDD+ MRV in Peru in this paper (Arts and Buizer, 2009; Schmidt, 2008). Discursive institutionalism is a new strand of institutional theory distinct from rational choice, historical and sociological institutionalism. It emphasizes the role of ideas and discourses in politics and in explaining institutional change (Hay, 2006; Schmidt, 2002, 2008). The main assumption is that new ideas and the discourses they spawn may undermine or re-shape existing institutional arrangements and thereby cause institutional change (Arts and Buizer, 2009; Schmidt, 2008).

DI identifies discourses and institutions as its two main key concepts (Arts and Buizer, 2009). Here, following Schmidt (2008), we conceptualize a discourse as a 'double faced' phenomenon: as the shared – and at the same time contested – *ideas* about policymaking on the one hand, and as the *interactive process* through which these ideas are exchanged and deliberated among policy actors and the general public on the other. The first face of discourse as ideas conform to Hajer and Versteeg's (2005) view of discourses as an ensemble of ideas through which meaning is given to social and physical phenomena. The second face of discourse as interactive processes of policymaking conforms to Habermas' conception of deliberative democracy (Habermas, 1994, 1996, 2006). As an interactive process, policymaking involves two types of policy discourses: communicative and coordinative policy discourses. The latter involves discussions among policy actors within the state bureaucracies, while the former involves discussions between political actors and the general public (Schmidt, 2008). In both policy discourses, DI conceptualizes actors as possessing '*background ideational abilities*' and '*foreground discursive abilities*', which enable them to re-think the institutional arrangements within which they act, communicate and deliberate their ideas about these institutional arrangements in a critical way, and take action to change or maintain them (Schmidt, 2010, p. 16).

Institutions, the second key concept in DI, are 'materialized discourses' in that the latter have become transformed and anchored into rules of the game, such as laws and standards (Arts and Buizer, 2009; Schmidt, 2008). In our view, however, DI does not comprehensively conceptualize institutions, because it only addresses 'rules of the game', while institutional arrangements consists of more elements than just rules. Therefore, to thoroughly and comprehensively operationalize DI, including institutional arrangements, we use the Policy Arrangement Approach (PAA), (compare Arts and Buizer, 2009, who consider the PAA as an operationalization of DI at policy level). A policy arrangement refers to the way a certain policy domain (here national forest measurement) is 'temporarily' shaped in terms of policy discourses, actors, resources and rules (Arts and van Tatenhove, 2006; Liefferink, 2006; Wiering and Arts, 2006). Below, we elaborate on each PAA dimension more in-depth.

A policy discourse, first of all, is the interactive process of idea formation in public deliberation and policy making (same conceptualization as in DI). However, it may contain three types of ideas: *policy*, *programmatic* and *philosophical* ideas (Mehta, 2011; Schmidt, 2008). *Policy ideas* are the strategies proposed by different policy actors to achieve given policy aims. *Programmatic ideas* encompass the definition of the policy problem at hand and the policy aims to be achieved (Mehta, 2011; Schmidt, 2008; Schmidt and Radaelli, 2004; see also Wiering and Arts, 2006). *Philosophical ideas* are the taken-for-granted underlying ideals and values in a given policy domain that are rarely contested, except in times of crisis (Campbell, 1998; Campbell, 2004; Mehta, 2011; Schmidt, 2008). Actors, secondly, are the stakeholders involved in policy formulation and implementation. They interact with one another during policymaking and deliberations and may form coalitions to advocate common policy ideas and or contest competing ones. Thirdly, resources are the tools, technologies, budgets and skills that actors can mobilize to achieve their policy aims. Rules, finally, are the laws and procedures that define the way a policy issue should be conducted. While laws are the codes enacted to implement selected policy ideas, procedures are routines that delineate division of roles and authority between the actors (Arnouts et al., 2012; Wiering and Arts, 2006). Following the PAA, we operationalize national institutional arrangements for forest monitoring as encompassing policy discourses, actors, resources and rules, and examine how these have been affected by international processes.

To gauge the extent to which any particular international process has affected national institutional arrangements for forest inventories in Peru, we distinguish between 'shallow' and 'deep' institutional change. Following Wiering and Arts (2006), we define 'shallow' institutional change as change in policy discourse only – often expressed in speeches and statements to the wider public or in expert debates –, and 'deep' institutional change as change not only in policy discourses but also in actor constellations, resources and rules. Often, when there