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Spanning boundaries: Science–policy interaction in developing countries—The Zambian REDD+ process case

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ABSTRACT

The paper investigates science–policy interaction in forestry in developing countries. It uses the case of REDD+ in Zambia, and links theoretical considerations with practical strategies. Science–policy interaction in the case of REDD+ is analyzed through two theoretical frameworks: the Knowledge Transfer Model and the Transaction Model. Based on interviews and document analysis, the paper advances on how it is possible to improve evidence-based policy-making for the benefit of the environment in developing countries. It is found that re-thinking of science–policy interaction gives rise to new opportunities to strengthen the links between science and policy, and consideration is given to the question of what key strategies would best secure this linkage.

1. Introduction

For the last 3 decades the international political agenda has promoted a steady growth of scientific information on the environment for use in inter-governmental and national policy processes (Hisschemöller et al., 2001a; Mitchell et al., 2006). Although there is a consensus that the existence of reliable, accessible information does not guarantee that the information in question will influence upon policies (Cash and Clark, 2001; Mitchell et al., 2006), it is commonly felt that sound scientific foundations make for better policy-making (Sutcliffe and Court, 2006). Accepting this idea, the question becomes one of how to further such policy-making. Part of the answer lies in the way the

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relationship between science and policy is conceived. For example, is it thought of as a unilateral transfer of knowledge from one domain to another, or as a more fuzzy interaction with dynamic boundaries between science and policy (Pregernig, 2005)?

Empirically informed studies of science–policy interaction address environmental policy processes largely in the developed countries (Guston, 2001; Haas, 2004; Halffman and Hoppe, 2005; Hisschemöller et al., 2001b; Jasanoff and Martello, 2004; Mitchell et al., 2006; Turnhout et al., 2007). There is a dearth of science–policy studies focusing on developing countries, and even fewer analyses seek to offer practical strategies for strengthening the links between science and policy (Jones et al., 2008). Moreover, relatively few studies concern the specific field of forest science and policy–especially in relation to REDD+, i.e., Reduced Emissions from Deforestation and forest Degradation and enhancement of forest carbon stocks in developing countries. This is surprising considering the relatively high levels of attention and donor support afforded to the topic. Notable forest science and policy studies include Castillo (2000), Godfrey et al. (2010) and Crouch and Smith (2011). The last of these analyzes biodiversity policy in South Africa and recommends one-to-one interactions between scientists and policy makers. However, evidence from a series of workshops on science–policy interaction in Latin America, sub-Saharan Africa, and South-East Asia (Kleine, 2009) seems to suggest that few forestry scientists in developing countries enjoy regular opportunities to interact with policy makers. Moreover, we must add to this the challenge of successfully ensuring that scientific knowledge is incorporated in policy (Jones et al., 2009). According to Vogel et al. (2007) part of this challenge arises from the limited number of participants in science–policy processes. Furthermore, Leach (2008) points out that the knowledge in question may well be contested, which means that its impact on policy becomes a matter of negotiation with a distinct power element.

Nevertheless, many forest science–policy studies give advice on how the perceived gap between science and policy can be closed, or at least narrowed (e.g., Blundell and Gullison, 2003; Guldin et al., 2004; Innes, 2003; Janz and Persson, 2002; Joyce, 2003; Reynols et al., 2003). Only a few applied studies, such as Rametsteiner et al. (2011) and Pülzl and Rametsteiner (2009), ask why a gap exists in the first place and how the relationship between science and policy is, or should be, conceptualized.

The present study of science–policy interaction focuses on forestry in developing countries. It uses the case of REDD+ in Zambia, and it seeks to link theoretical considerations with practical strategies. It analyzes science–policy interaction in the case of REDD+ through two theoretical frameworks: the Knowledge Transfer Model and the Transaction Model. It does so in order to ask how we can improve (evidence-based) policy-making for the benefit of the environment in developing countries like Zambia. Unfortunately, many developing countries are constrained by scarce research resources, a fragmented knowledge base and weak institutions. In these countries there are also numerous opportunities to interfere in the scientific process and to impair the policy-making processes. We do not advance a single explanatory model of the science–policy interplay that would work across all cases. This would be nearly impossible given the diversity of policy environments, institutional structures and political arrangements (Stone, 2001). But we do ask if it can be determined whether one model seems better suited to describe the Zambian case of REDD+. REDD+ cannot be seen in isolation from other policy initiatives, of course, so the case study is expanded to encompass the wider forestry policy process that has nurtured and encouraged the ongoing REDD+ programme in Zambia. Because the empirical analysis has been strictly confined to the case of Zambia, generalization of study findings to other developing countries should of course be done with caution. That said, we dare to assume that many developing countries, not the least those preparing for REDD+, share some similarities which allows us to speak in more general terms with regard to modes of environmental science–policy interactions in this group of countries (see Section 4.1).

The paper has the following structure. First, two models of science–policy interaction are described. Second, the case of science–policy interaction in the Zambian REDD+ process is analyzed. Here the experience in Zambia is related to the two models. A discussion of what should have happened, and how it could have happened, is also included. Finally, in the conclusion recommendations are made primarily to national science–policy actors and international donors. It is stressed that the re-thinking of science–policy interaction gives rise to new opportunities to strengthen the links between science and policy, and consideration is given to the question what key strategies would best secure this linkage.