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Global environmental assessments: Impact mechanisms

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ABSTRACT

Many impacts of Global Environmental Assessment (GEA) processes on policy processes, and the mechanisms underlying these impacts, remain underappreciated. In this research, we focus on the 5th Global Environment Outlook and the Working Group III contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Based on the perception of GEA process participants, we describe the mechanisms through which assessments create or alter interpersonal interactions which can affect the dissemination of ideas. In particular, we find that GEAs can contribute to framing international coordinative discourses in intergovernmental negotiations. This can be achieved by widening, improving and/or maintaining the active participation of policy actors in the discussions of global environmental risks and by creating the scientific foundations for intergovernmental negotiations. GEAs can also contribute to national coordinative discourses by facilitating reflexive learning amongst participants, empowering them to diffuse and translate global information, and by providing methodological guidance. They can contribute to national communicative discourses by reviving interest and awareness of the urgency to address environmental problems. In this way they provide powerful arguments for governmental societal actors to challenge or strengthen existing national coordinative discourses. Finally, GEAs can improve scientific discourses worldwide by enhancing the capacity of individual researchers to produce and communicate relevant research insights. This is achieved by participating in a learning exercise with an extended community of peers and policy actors. This article is part of a special issue on solution-oriented global environmental assessments.

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1. Introduction

Many global environmental problems continue virtually unabated and are among society's major concerns. Large-scale scientific assessments can play a major role in addressing these environmental problems and achieving sustainable development. Global Environmental Assessments (GEAs) are "formal efforts to assemble selected knowledge with a view toward making it publicly available in a form intended to be useful for decision making" (Clark et al., 2006). In the past, some assessments have been described as highly influential, while others have been found to lack influence (Mitchell et al., 2006a, 2006b). The question that drives this paper is the following: how can such assessments really live up to these high expectations and significantly influence policy processes via the policy discourses that lead to them? Understanding the

impacts of scientific knowledge on policy change has attracted much scholarly attention. However, analyzing these impacts appropriately remains a formidable challenge in need of better conceptualizations to which this paper aims to contribute.

As GEAs are social processes that are often conducted over several years covering a wide range of issues, they have the potential to yield many different outcomes. The Social Learning Group (2001) pioneered research into the role played by scientific assessments produced by international institutions in attention cycles on global environmental risks. They explored the complexity of the network of actors involved and investigated the role of option assessments and their criteria of efficiency (e.g. Clark et al., 2001; Schreurs et al., 2001). The GEA Harvard project widened the approach by looking at a large number of scientific assessments, based on which they further explored the criteria of influence of GEAs (Mitchell et al., 2006a, 2006b; Farrell and Jäger, 2006; Jasanoff and Martello, 2004). Thus they advanced the conceptualization of GEAs as eliciting an influence (or lack of influence) in various issue domains. In particular, three main criteria of the effectiveness of GEAs were identified: salience, credibility and

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legitimacy. While these concepts have been widely employed, Sarkki et al. (2015) point out that these criteria need to be amended to better capture the “dynamic, continuous and multi-directional interactions between science, policy and society” in science-policy interfaces. Pregernig (2007) argues that science-policy interfaces in assessments should be conceptualized as dynamic processes which exist in the long-term social interactions between scientific experts, policy-makers, interest groups and citizens. Recent scholarship points to the importance of focusing on these interactions to better understand the impact of scientific research on policy processes (Molas-Gallart and Tang, 2011). It also considers the importance of the processes within which knowledge is co-produced as central determinants of the capacity of knowledge to impact policy (Posner et al., 2016). However, despite the existence of single case research on the influence of some of the main GEAs (see e.g. Hulme and Mahony, 2010 on the IPCC), it remains unclear how GEA insights may filter through relevant sites of policy-making i.e. how GEAs can reduce disconnections between researchers, policymakers and citizens. This also shows that no consensus exists on the mechanisms underlying their (lack of) influence to date.

In this article, we look across two very different assessments to analyze particular mechanisms by which GEAs can contribute to policy-making via discourses. The two cases we focus on are the solution-oriented Working Group III contribution to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC WGIII AR5) and the fifth Global Environment Outlook from the United Nations Environment Programme (UNEP's GEO-5). Drawing on theoretical literature of the role of knowledge and discourses in policy-making, as well as on empirical material, these two GEAs are analyzed from the perspective of discursive politics. We show that GEAs can contribute to changes in policy discourses and analyze how, i.e. by which mechanisms, this can take place. In particular, this allows us to explore the multiple effects of co-producing knowledge in these GEAs. Several of these impact mechanisms have been identified in previous research (cf. Sect. 2). However, we go beyond previous literature by providing a unique conceptual overview of these impact mechanisms in our analytical framework, by further specifying them, and by offering novel empirical substantiation.

This empirical research contributes to improving the qualitative understanding of the ways in which GEAs can contribute to policy discourses. This way, we put emphasis on the dynamic character of GEA processes. The focus on policy discourses helps us to understand, in a nuanced manner, how GEAs might indeed reduce disconnections between researchers, policy-makers and citizens by showing how their insights can filter through relevant sites of policy-making. This also provides a framework for comparing GEA effectiveness more systematically in the future. It should also enable GEAs to be deliberately designed to harness their full potential in terms of influence on policy processes.

2. Analytical framework

Understanding policy-making as discursive politics (Fischer, 2003) has proven to be an insightful way of understanding the role of ideas in policy change. According to this theory, we understand discourses as informing and epistemically underpinning policy processes. As such, we do not examine policy process elements but rather focus on the preceding stage of the formation and legitimization of discourses in policy and society. Discourses are “an ensemble of ideas, concepts, and categories through which meaning is given to a phenomenon” (Hajer, 1993, p. 45). They are typically constructed and reconstructed, by a multitude of actors, through a distinguishable set of practices in many sites, simultaneously and often independently from one another (Miller,

2000; Fischer, 2003; Hajer, 2005). These practices of argumentative interactions, in which different actors confront their fragmented and divergent statements, contribute to the framing and understanding of problems and the identification of solutions (Hajer, 1995; Silverstein, 1982). A “discourse helps to create an opening to policy change by altering actors' perceptions of the policy problems, policy legacies and ‘fit’”, influencing their preferences, and, thereby, enhancing their political institutional capacity to change’ (Schmidt and Radaelli, 2004, p. 188). Thus, changes in discourses should not be considered as being independent from changes in interests and beliefs as assumed by previous major research efforts on GEAs. Rather, discourses should be considered to be a reflection of the changes in beliefs, values and interests of those who express them. They are also a medium that has the potential to frame and change interests, institutions, and culture, being used in argumentative interactions (ibid). Hajer (1995) argues that scientific knowledge, as a particular set of ideas, has an important role to play in political discourses. Schmidt and Radaelli (2004) show that discourses are the medium by which ideas travel from the professional fora in which they are generated, to policy arenas. Here actors, with the power to formulate policies, argue with one another and rely on the intellectual resources provided by the forum (Radaelli and Schmidt, 2004). However, practices and institutions are needed for scientific findings to be transformed into ideas relevant to such political discourses. In particular, a discourse is defined by way of its substantive matter, as a set of policy ideas and values, and in terms of its usage, as an interactive process focused on the formulation of policies and the communication of ideas (Schmidt and Radaelli, 2004). Accordingly, usable knowledge needs to encompass a substantive core as well as a process that organizes the transmission of knowledge (Haas, 2004). We assume that the value of GEAs not only lies in their substantive content but also in the activities and practices they facilitate through which scientific insights are negotiated and common understanding produced, transformed and disseminated.

For ideas to influence policy-making, a group of like-minded individuals has to persuade a majority of policy actors, experts and civil servants involved in the formulation of policies, of the relevance and appropriateness of these ideas. This persuasion process in policy-making realms is called coordinative discourse (Schmidt and Radaelli, 2004). Furthermore, these ideas have to be legitimized by the public in a discursive exchange between representatives of the civil society and policy-making actors. Indeed, the public and their representatives have to be convinced by these ideas to maintain their political support for those in power. This process is called communicative discourse (Schmidt, 2008, p. 310). This means that, to be effective in influencing policy processes, GEAs should contribute to both coordinative and communicative discourses in relevant policy arenas. This paper explores whether and how the practices organized by GEAs enrich coordinative discourses in international and national policy arenas and communicative discourses involving their population. In addition, we hypothesize that GEAs feed back to scientific discourses. By exposing scientific arguments on policy issues in an open political process where they are discussed by various stakeholders, researchers can learn from these exchanges and enhance their effectiveness at producing useable scientific knowledge (Haas, 2004). Thus, assessments can also contribute to strengthening the skills of researchers in responding to policy-making needs for scientific advice in the future.

Based on this theoretical background, we hypothesize that GEAs affect international discourses (H 1), national coordinative and communicative discourses (H 2) and scientific discourses (H 3). Previous research on single cases hint at how GEAs may affect these various policy discourses (see below). Based on our analysis of the evidence we have identified, we formulate sub-hypotheses

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