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Andrea Steiner y de Almeida Medeiros Marcelo.

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**USING THE OSLO-POTSDAM SOLUTION TO EVALUATE THE
EFFECTIVENESS OF THE CBD IN BRAZIL: PRELIMINARY RESULTS**

Andrea Quirino Steiner
Universidade Federal de Pernambuco – UFPE

Marcelo de Almeida Medeiros
Universidade Federal de Pernambuco – UFPE

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Using the Oslo-Potsdam Solution to Evaluate the Effectiveness of the CBD in Brazil: Preliminary Results¹

Andrea Quirino STEINER, Universidade Federal de Pernambuco – UFPE
(ecodea@gmail.com)

Marcelo de Almeida MEDEIROS, UFPE
(mam14@uol.com.br)

Abstract

The Oslo-Potsdam solution is an approach used to carry out empirical research on effectiveness, which allows regimes to be placed on a scale including a no-regime counterfactual, a collective optimum, and actual performance. It has been used to evaluate several international environmental regimes and is considered one of the most sophisticated indexes available to assess effectiveness. This study used the Oslo-Potsdam solution to evaluate the effectiveness of the Convention on Biological Diversity (CBD) in Brazil. After briefly discussing relevant conceptual and methodological concerns, the paper presents empirical results and the regime's preliminary classification in terms of its effectiveness in Brazil – including considerations on problem structure, domestic salience, political context, and problem-solving capacity.

Keywords: regime effectiveness, environmental regimes, Oslo-Potsdam solution, Convention on Biological Diversity, Brazil

Resumo

A solução Oslo-Potsdam é uma abordagem usada para realizar pesquisas empíricas sobre eficácia, permitindo que os regimes sejam situados numa escala que inclui um contrafactual do não-regime, um ótimo coletivo e a performance real. Tem sido usada para avaliar diversos regimes internacionais de meio ambiente e é considerado um dos mais sofisticados índices disponíveis para analisar a eficácia. Este estudo utilizou a solução Oslo-Potsdam para avaliar a eficácia da Convenção sobre Diversidade Biológica (CDB) no Brasil. Após discutir questões conceituais e metodológicas relevantes, o artigo apresenta resultados empíricos e uma classificação preliminar do regime em termos de sua eficácia no Brasil, incluindo considerações sobre a estrutura do problema, visibilidade doméstica, contexto político e capacidade de resolução.

Palavras-chave: eficácia dos regimes, regimes de meio ambiente, solução Oslo-Potsdam, Convenção sobre Diversidade Biológica, Brasil

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Introduction

Proclaimed by the United Nations as “International Year of Biodiversity”, 2010 also marks the seventeenth anniversary of the Convention on Biological Diversity (CBD), which entered into force the 29th December 1993. It is also the year designated by its 193 parties to attain goals such as significant reduction in global biodiversity losses. Nevertheless, the creation of a regime *per se* does not guarantee that it will be implemented effectively nor that the desired results will occur. Thus, authors such as Underdal (1992) and Zürn (1998) consider that analyzing regime effectiveness is a promising line of research due to its potential in showing that regimes matter and why.

Among the several methodological possibilities to study regime effectiveness², the Oslo-Potsdam solution is an approach used to carry out empirical research, which allows regimes to be placed on a scale including a no-regime counterfactual, a collective optimum, and actual performance (Helm & Sprinz, 2000; Hovi et al. 2003; 2003a). It has been applied to evaluate several international environmental regimes (see, for example, the compilation by Miles et al., 2002) and despite some important criticism (Young, 2001; 2003) it is considered one of the most sophisticated indexes available to assess effectiveness (Young, 2001).

Brazil, which is home to an enormous variety of ecosystems, comprises the greatest biodiversity in the world: considering solely the number of identified species, the country houses approximately 12% of the total of species known for the planet (Lewinsohn & Prado, 2000). It also stands out politically as one of the leading countries of the so-called Megadiversity Group – which members hold over 50% of the Earth's biodiversity – and as one of the world's greatest leaderships for this theme (Brandon et al., 2005).

This article discusses the effectiveness of the CBD in Brazil with the purpose of contributing to the knowledge on elements of regime effectiveness and related causal mechanisms. Arguments are based on data from documents and interviews with key actors. After briefly discussing relevant conceptual and methodological concerns, the paper presents preliminary results and the regime's classification in terms of its effectiveness in Brazil – including considerations on problem structure, domestic salience, political context, and problem-solving capacity.

Conceptual and Methodological Considerations

According to Underdal (1992), the effectiveness of a given regime is more related to its problem-solving capacity than with cooperation levels between parties. Additionally, this author highlights the need of comparing the regime against some sort of parameter: “Most basically, evaluating the 'effectiveness' of a cooperative arrangement means comparing something (...) against some standard of success or accomplishment” (Underdal, 1992: 228). Nevertheless, authors like Le Prestre (2002) view effectiveness as being more linked to behavioral changes consistent with the purposes and aims of the regime and list several prerequisites: institutional development, operationalization, and financial support; information and transparency; capacity-building; creation of nongovernmental organization (NGO) and intergovernmental networks; development of consensual knowledge, such as tools and

2 Here we consider the definition of regime put forth by Keohane (1989) “institutions with explicit rules, agreed upon by governments, that pertain to particular sets of issues in international relations”.

indicators; legitimacy; and learning.

Specifically considering environmental regimes, the work of authors such as Keohane et al. (1993) point out that, ideally, effectiveness would be measured by true improvements in the environment itself; yet, in operational terms these authors believe it is more feasible to analyze observable the political effects. Accordingly, here we will define effective regimes as those which have the power to solve the problem in question, to promote behavioral political change aligned with the regime's goals, and which results are possible to be measured when compared to a predefined standard of success. On a more practical stance, we will consider the classification of Miles et al. (2002), which list the following characteristics for effective regimes: the problem in question is predominantly benign and there is a good state of knowledge about it; decisions are taken by qualified majorities; there is an intergovernmental organization (IGO) to serve the regime; the epistemic community is influential and well integrated; instrumental leadership occurs through one or few parties or by individual delegates or coalitions; linkages to problems outside of the scope of the regime are to more benign issues; and there are positive ulterior motives or selective incentives to cooperate and implement the regime.

Several environmental regimes have had their effectiveness evaluated, especially those related to marine pollution (see, for example: Haas, 1989; Mitchell, 1993; Carlin 2002; Miles, 2002; Skjærseth, 2002; Skjærseth et al., 2006), management of fish stocks (Peterson, 1993; Hønneland & Jørgensen, 2003), transborder air pollution (Hønneland & Jørgensen, 2003), and destruction of the ozone layer (Parson, 1993; Jordan, 1998; Wettestad, 2002). Most of these use case studies as the primary method of research; in fact, Bennett & Elman (2007) argue that this method was essential in the development of international relations as a political science sub-discipline. Yet whether using qualitative, quantitative or mixed methods, there are several ways of studying the effectiveness of an environmental regime. Using Brazil as a case study among the CBD's parties, two additional tools were applied here to evaluate this convention's effectiveness, both used in conjunction with the Oslo-Potsdam solution: the use of simulations and the analysis of causal mechanisms. The preliminary results presented in this article are based on documents and interviews with key actors and/or specialists from the following sectors: government, nongovernmental (environmental NGOs), academia, UN agencies, and business community. The scoring that derived the considerations in the next section is based on a modified version of the codebook in Miles et al. (2002). Regime effectiveness is set as the dependent variable, while problem type, political context, and problem-solving capacity are the main independent variables.

The use of simulations consists in projecting hypothetical scenarios about how the *status quo* would be if the situation being studied had not happened (i.e., a counterfactual in terms of relative improvement – how would things be if the CBD had not been implemented in Brazil?) or a perfect solution where everything possible were attained (i.e., to what point was the problem really solved – how would things be in Brazil if everything had been implemented perfectly and how far is the situation from this perfect scenario?) (see Fearon, 1991). Similarly, the Oslo-Potsdam solution consists in applying scores to place a regime between superior and inferior limits: i.e., a collective optimum (CO=1) and a non-regime counterfactual (NR=0), respectively (Sprinz & Helm, 1999; Helm & Sprinz, 2000; Hovi et al. 2003, 2003a; Sprinz 2005).

Process tracing, in turn, is another common approach used together with the case study method to analyze regime effectiveness and consists in identifying the causal

process³ between one or more independent variables, as well as the result of the dependent variable. In this context, causal mechanisms would be physical, social, or psychological processes impossible to observe, yet through which the causal agents act in specific situations (George & Bennett, 2005 *apud* Tansey, 2007). Thus, despite the different weights evidences provided by cases often make comparison difficult, the overall information obtained about the mechanism being studied makes it possible to verify the feasibility of a given explanation (Bennett & Elman, 2006).

CBD Effectiveness in Brazil

Perhaps due to its ambitious, profoundly political nature, as well as challenges related to the lack of scientific data and biodiversity indicators (Le Prestre, 2002), the CBD is one of the least studied environmental regimes in terms of effectiveness. One of the few researchers to approach this theme has been Le Prestre (2002; 2003). When evaluating the first ten years of the CBD, this author reported progress mainly in relation to procedural improvements, such as the creation of new institutions, laws, and national processes (Le Prestre, 2002).

Based on the features presented by Miles et al. (2002), which use the Oslo-Potsdam solution to classify 14 environmental regimes into three levels of effectiveness (effective, mixed performance, and low effectiveness regimes), the preliminary data collected by this study suggests that the CBD is a mixed-performance regime in Brazil. Overall, the convention fared worse in terms of problem type, not so well regarding political context, and best in problem-solving capacity.

The first variable includes the malignancy of the problem and the state of knowledge on the issue, especially in terms of uncertainty. Regarding problem benignity and malignancy, Underdal (2002) states two aspects of difficulty when solving a policy problem: the intellectual level and the political level. Thus, given its complexity – beginning with the definition of biodiversity itself – conserving biological diversity can be considered a strongly malign problem from an intellectual point of view. After all, as mentioned by Underdal (2002: 15), “at the *intellectual* level some problems are substantively more intricate and complicated than others, implying that more intellectual capital and energy are needed to arrive at an accurate description and diagnosis and to develop good solutions”. Although it seems unquestionable that CBD has promoted improvements in the knowledge base on Brazilian biodiversity, both directly and indirectly, a lot of work remains to be done that requires specialized professionals. Lewinsohn and Prado (2000), for instance, report disparities between the country's different biomes and regions (including infrastructural and professional differences between academic institutions) and gaps in certain taxa. These authors also point out that the number of species in Brazil is estimated to be ten times larger than what has been cataloged, and that several centuries would be necessary to describe the remaining species at the present rhythm. Nevertheless, actors from the different sectors investigated seem to agree that one of the strong points of the CBD's implementation in Brazil has been the amount of information generated on the topic and, to a lesser point, governmental and transnational learning.

The issue can also be considered malignant from a political standpoint, mainly due to the conflict between socioeconomic and social-environmental interests; as highlighted by Underdal (2002: 15), “a perfect benign problem would be one

3 For a general discussion on causal processes in political-ecological systems, see Homer-Dixon (1996).

characterized by identical preferences”. The convention's three objectives⁴, on their own, are subject to conflict between the several actors that wish to promote biological conservation in different ways. These actors, which can roughly be divided into conservationists and preservationists, range from those who believe in allowing ecosystem use by indigenous and other traditional populations or even by environmentally responsible companies to those who believe in large extensions of untouched reservations or limited-use natural parks.

Outside of the problem type *per se*, the political aspects of that influence regime effectiveness may also be considered in terms of political context. Miles et al. (2002) include three components to this independent variable: linkages to other problems (more benign or more malign), ulterior motives to implement the regime (positive or negative), and the presence or absence of selective incentives for cooperation.

The first component is problematic mainly due to biodiversity's linkages to climate change, a strongly malign global problem. Yet although climate change is intricately connected to biodiversity issues, the former is much more tangible to the population: with some help from the media, its effects are becoming easier to visualize by the layman, while biodiversity remains as an abstract concept which definition is still controversial even among specialists. Thus, despite its worldwide recognition as home of great part of the planet's biological diversity, the plethora of academic research projects funded directly or indirectly due to the CBD have failed to bring the concept into common use by the Brazilian population. Communication difficulties can also be observed within the government itself; while civil servants in technical positions often find it difficult to convince decision makers of the socioeconomic importance of biodiversity, the same can be said for communication and agreement between the interests of the different government sectors (i.e., the Ministry of Environment vs. the Ministry of Infrastructure and the Ministry of Mines and Energy, for instance). All in all, it can be said that the biodiversity issue has a moderate level of domestic salience (see the classification by Cortell & Davis, 2000) and is overshadowed by other issues – primarily climate change, if considering only environmental themes.

The second and third components of the political context variable only make the situation worse, as specialists do not point to ulterior motives within the country to implement the convention – neither positive or negative – nor are there clear incentives for cooperation and implementation. Despite the existence of several laws and projects that could be considered as incentives to the conservation of biological diversity in some instances, it is hard to say whether these were directly derived from the CBD.

Lastly, problem-solving capacity is based on five main components (Miles et al., 2002): type of decision rule, existence or absence of a significant intergovernmental organization serving the regime, level of integration of the epistemic community, distribution of power, and instrumental leadership. Based on the information collected up to this point, this last independent variable considered received the highest score (although far from perfect). On one hand, consensual decision making within the convention conferences may slow down or stall important decisions. However, the following factors enhance the convention's problem-solving capacity: the existence of a well integrated and influential epistemic community that includes environmental NGOs and academic institutions, both globally and in Brazil (in fact, members of this community have often been invited to take part in official delegations); worldwide recognition of Brazil's leadership and influence in this area, including that of specific delegates; and the existence of the Secretariat of the Convention on Biological Diversity

4 Conservation of biological diversity, sustainable use of biodiversity, and fair and equitable sharing of the benefits from genetic resources.

(SCBD), linked to the United Nations Environment Program (UNEP), which works to promote the goals of the regime and other relevant tasks. Additionally, the fact that developing countries are home to most of the world's biodiversity provides for a different kind of leverage between countries and may be considered another positive aspect (see discussion in Rosendal, 2000).

Final considerations

Overall, preliminary data suggests that the Convention on Biological Diversity has had a mixed performance in terms of effectiveness in Brazil. Major strengths comprise the integration and influence of an epistemic community on decision makers; the increase in academic information on the subject; and the country's leadership in the area. Weaknesses include linkages to more malign problems (especially climate change), moderate domestic salience, lack of positive ulterior motives and selective incentives for implementation; and consensual decision rule at the convention's conferences. Overall, the convention fared worse in terms of problem type, not so well regarding political context, and best in problem-solving capacity.

It is important to note, however, that problem-solving *capacity* and technically optimum situations do not always translate into effective actions; quoting Le Prestre (2003) in his ten-year evaluation of the CBD, further research will show if there is still a "long road to effectiveness".

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