

78. Fighting to include local voices in environmental policy-making in Brazil

by
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Local voices and opinions are seen as important in formulating environmental policies, but in reality oral accounts, metaphors and symbols play only a marginal role, while scientific representations still dominate. This problem is deeply rooted in governance discourses that value satellite imagery and other scientific data above local views and experience. This paper focuses on policy-making in Brazil in relation to deforestation in the Amazon rainforest.

Introduction

The entities involved in formulating environmental policies, such as land, people, pollution and biodiversity, cannot be physically present at the discussion. In facing this challenge, policy processes need to create and use representations – words, utterances, symbols or images – to stand in for what cannot be brought into the room (Brown, 2009). Historically, the task of creating representations in environmental policy-making has largely been left to scientists (Peet and Watts, 1996). Re-evaluating indigenous and other forms of local knowledge to construct effective environmental governance systems has been an important social science contribution to policy debates in recent decades (Agrawal, 1995; Harris et al., 1995). But despite the recognised need for these contributions, local representations still play only an insignificant role in formulating and enforcing environmental policies.

This article aims to explore the challenges involved in including local representations of reality in environmental policy-making. It does so by examining the relation between satellite imagery – as a type of scientific representation – and local accounts of deforestation in formulating environmental policies in the Brazilian Amazon rainforest. In order to capture this relation, this article pays particular attention to the governmental discourses that policymakers and scientists in Brazil use.

Michel Foucault suggested that discourses are statements that “define, describe, and delimit what is possible to say and not possible to say (and by extension – what to do or not to do)” (Hajer, 1995; Kress, 1985: 7). This implies that in a specific policy context, only the

statements that conform with established discourses are deemed “truthful”. Representations rely on the dominant discourses to become valid, while the representations that do not fit are silenced (Foucault, 2002). By expanding the understanding of how the state uses discourses, Foucault proposed the notion of governmentality: that is, “the ensemble formed by institutions, procedures, analyses and reflections, calculations, and tactics that allow the exercise of this very specific, albeit very complex, power” (Foucault, 2007: 144).

The characterisation of a specific governmentality and the delineation of its relationship to different discourses and representations are not trivial tasks. They often require the adoption of different research methods. The data for this analysis come from textual sources (such as news articles, government reports, historical accounts and scientific studies) and from 85 interviews conducted with government officials, scientists and local groups in Brazil between June 2007 and August 2009. The next section of this article outlines the main findings of the study (for a more extensive version, see Rajão, 2013).

Governmental discourses and representations

The 1980s was an intense period for environmental activism in the Amazon. An alliance between grassroots movements, scientists, politicians, journalists and celebrities made globally important an issue which had previously been largely invisible. Local representations of deforestation led the activism. Examples include striking images of burned fields and the voices of prominent local activists such as the Indian chief Raoni Metuktire and the rubber tapper Chico Mendes. Three decades later, the situation could not be more different. Instead of local representations, distant and objective assessments in the form of satellite images, maps and graphs now dominate news reports and policy documents. This prompts us to question why representations of the Amazon featuring local voices and images have been sidelined in recent decades in favour of remotely sensed and numeric representations.

We have examined the ways in which policymakers referred to local and scientific representations in their discourses. It emerges that governance in Brazil reflects partially overlapping discourses that shape the relationship between representation and policy-making.

Within the Brazilian government, the first discourse that helps explain the diffusion of scientific representations at the cost of local ones can be defined as the visibility discourse. This discourse is dominated by policymakers’ pronouncements which privilege the sense of sight over other ways of representing and knowing the Amazon. It incorporates the idea that it is crucial to “see” the territory in order to govern it. The influence of the visibility discourse is particularly evident when we consider that government officials disqualified the non-visual local representation of the Amazon after the introduction of satellite-based remote sensing technology.

The local inhabitants of the Amazon have for centuries found ways to represent their territory through the use of oral accounts that highlight the characteristics of the landscape as they see and live it. For instance, while referring to the scarcity of bush meat in nearby forests and the location of his current hunting grounds, a native Indian would use references such as the names of rivers (such as Rio do Sangue, Blood River), aspects of the landscape (such as *mata fechada*, dense forest) and talk about distances in terms of walking days. Nonetheless, policymakers and scientists insist that only with the arrival of

satellite imagery has the Amazon became knowable. Pereira (1971) commented that the use of remote sensing technology in the Amazon was essential for “separating the legend from reality [... and revealing] the secrets that nobody knows”. It is possible that Brazilian policymakers excluded local representations not because of their inability to represent the territory, but because they conflict with a visibility discourse that seeks to favour the government. This aims to know and control the Amazon in a centralised way, without the need for local, background knowledge that would otherwise be required to interpret local, culturally bound representations.

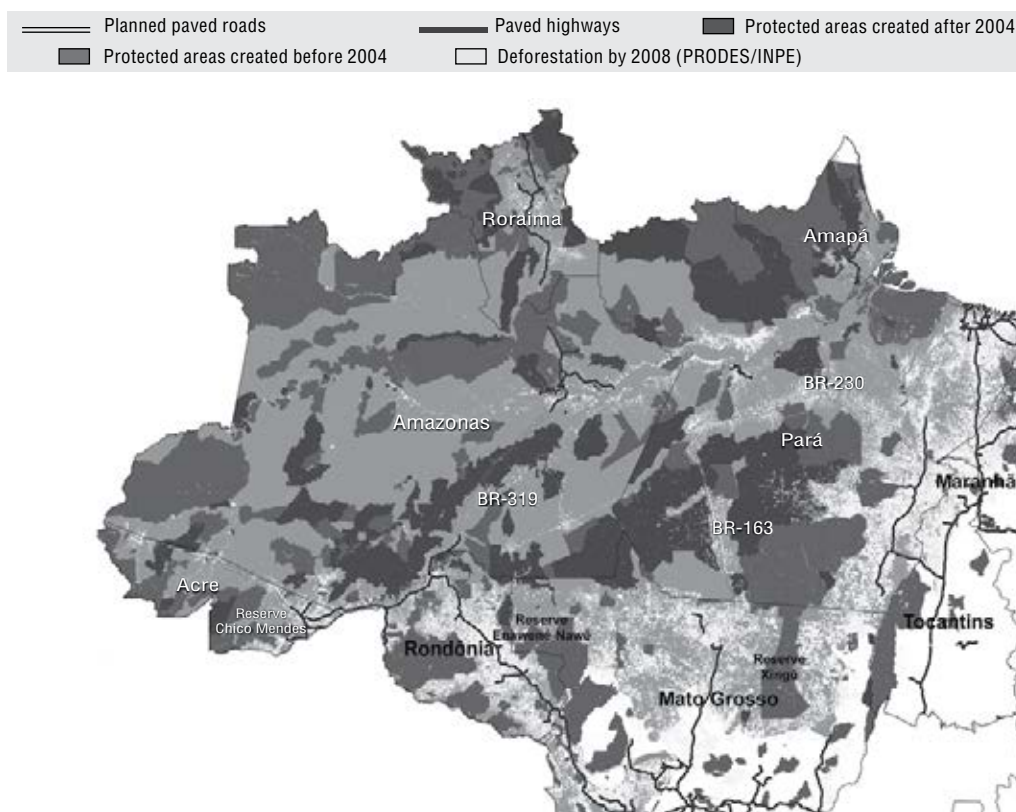
The perceived importance of a comprehensive understanding of the territory reveals another way in which scientific representation is valued above local representation. The so-called comprehensiveness discourse describes the tendency of officials and scientists to refer to the entire legal entity of the Amazon, the largest socio-geographic division of Brazil, rather than to specific areas or populations. In addition, despite recent efforts to allow state governments to get involved, key policy decisions concerning the Amazon are still made by the federal government, in a way that tends to treat the region as a homogeneous whole. Here, scientific representations such as satellite images play a key role due to their ability to show the entire picture, while local representations are sidelined for their limited geographical range.

During the 1970s and 1980s, local representations helped create protected areas (see below), yet they were unable to stop the expansion of Brazilian colonisation policies in the early 1980s. This may be because they only focused on deforestation in a restricted portion of the Amazon. Policymakers and scientists consequently dismissed the relevance of these representations by claiming that they were “speculative [...] excessive and misdirected” (Clayton, 1982: 2). They did not feel a need to change policies that applied to the whole of the Amazon.

A third discourse that helps explain the success of satellite technology and related scientific representations in Brazil concerns the search for deterministic statements, representations that can simultaneously explain reality and mathematically control the outcome of policies. This we term the determinacy discourse. It was evident in the importance that policymakers have attached to mathematical models that could generate future deforestation scenarios for the Amazon. The positivist underpinnings of scientific representation match the deterministic discourse closely, whereas local representations mostly rely on contextual and experience-based presumptions about the future. So they are deemed unfit, and excluded from policy-making.

This helps explain why prediction models that promise specific results in terms of reducing deforestation (see Figure 78.1) have increasingly guided the creation of new protected areas since 2004, rather than demands from local groups based on oral accounts of the cultural significance of the territory. An ex-director of the Ministry of the Environment has suggested that local representations were often used only to justify a decision that had already been taken, based mainly on deterministic representations of satellite images and mathematical models.

Figure 78.1. **Map showing deforestation patterns, main roads and protected areas in the Amazon. It illustrates the ability of scientific representations to provide visual, comprehensive and deterministic accounts of the Amazon.**



Source: R. Rajão (2013), "Representations and discourses: The role of local accounts and remote sensing in the formulation of Amazonia's environmental policy", *Environmental Science and Policy*, Vol. 30, pp. 60-71.

Conclusion

To include local representations in environmental policy-making, we must be ready to challenge some of the assumptions embedded in current government practices. An intervention can only be successful if it is aimed at revaluing local representations. It should challenge not only the inherent superiority of science, but also the discourses that support the exclusive use of scientific representations. To position local representations at the heart of environmental policy-making, we need to challenge the discourses of visibility, comprehensibility and determinacy that undermine their legitimacy.

It is therefore important to go beyond the "seeing is believing" attitude that is typical of current evidence-based approaches to policy-making. The accounts of the people who face environmental problems directly should also be accepted as valid. This implies the adoption of participatory approaches and the creation of a new form of governmentality that acknowledges the validity of different epistemologies in environmental policy-making.

It should also be possible to challenge the idea that the "whole" is the only scale on which valid environmental policies can be created. This implies abandoning large-scale and top-down approaches to policy-making. Decentralised governance

systems should allow local groups the autonomy to set priorities and regulate their relationship with the environment. The idea that environmental policies should always be deterministic should also be challenged. Governments need to accept the unruly nature of environmental problems, and create solutions in an inclusive, experimental and emerging manner.

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