



Unravelling narratives of water management: Reflections on epistemic uncertainty in the first cycle of implementation of the Water Framework Directive in southern Spain



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ABSTRACT

The participatory planning model promoted by the Water Framework Directive (WFD) leads to the emergence of new questions on how to define problems, how to know if something is a problem and for whom. We propose the concept of epistemic uncertainty to assess adaptive governance in the context of broadening of narratives about how water should be managed. For this purpose, we analyse how framings of the problem-solution duality with regards to water management evolve throughout the first cycle of implementation of the WFD in a semi-arid river basin in Southern Spain. We identify five narratives on water management: supply-side management, demand-side management, deep ecology, rural livelihoods and knowledge and governance. The paper contributes to the adaptive governance literature by arguing that epistemic uncertainty cannot be treated as a technical problem, and dealing with pluralism and accommodating evolving narratives are essential to adaptability in governance. We submit that the implementation of the WFD should take into account stakeholders' uneven capacities to influence water management and the hindrances to implementation that ensue. With regard to the study area, we find that (i) narrative pluralism is handled through ambiguity and coalition strategies based on large infrastructural investments, traditional in the Spanish context, (ii) unexpected events such as the economic crisis had greater influence on water management than participatory processes, and (iii) little evolution was observed in the perception of problems after implementation of the plan and mistrust of the water administration rose during the period analysed.

1. Introduction

The European Union (EU) Water Framework Directive (WFD, 2000/60/CE) has been a remarkable experimental arena for governance innovation since its enforcement in the year 2000. The Directive has navigated priorities towards environmental objectives and introduced elements of adaptive governance such as management at the bioregional scale (e.g., the river basin) through 6-year cycles of implementation in which to iterate, learn and adapt (Huitema et al., 2009). The first River Basin Management Plans (RBMPs) were required for 2009, including the initial assessments of the baseline for the status of water bodies, a diagnosis of key management problems, and the potential solutions in the Programme of Measures (PoM). PoMs became the key vehicle for implementation of the Directive and the connection between the definition of water management problems and the decisions for specific actions targeting these problems. Draft versions of the documents were mandated to be open to public consultation or 'more

active' forms of stakeholder participation (WFD, art. 14).

Newig and Koontz (2014) illustrate how mandated participatory planning was introduced as means to improve the delivery of EU policy outcomes, accommodate controversies and enhance acceptability of management decisions. During the last decade, an important body of scholarship analysing stakeholder involvement in the development of the first RBMPs (2009–15) flourished. Many efforts were directed towards the identification of the key factors linking the design and operation of participatory processes to their outcomes (Fritsch and Newig, 2012; Blackstock et al., 2012; Drazkiewicz et al., 2015). Other authors focussed on understanding the unfolding of these processes in practice and their multiple effects. Although impacts of participation have been classified in different ways, they usually include: the improvement of decisions in the plan, their implementation and the pursued environmental outcomes (e.g. Waylen et al., 2015); the enhancement of legitimacy of decisions and acceptability by stakeholders (e.g. Barnes et al., 2007; Kochskämper et al., 2016); social outcomes such as

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learning, trust and network building (e.g. Mostert et al., 2007; Parés et al., 2015). In light of the new planning cycle 2015–2021, the interest raised by the second planning process seems to have decreased (Boeuf and Fritsch, 2016). Still, there is a need to assess the results of the first implementation period and reflect on the progresses and barriers encountered hitherto.

One commonly cited, yet not much explored, problem in the literature on participatory water governance is how to handle the different problem framings that co-exist and evolve in the management cycle, affecting its outcomes (Molle, 2008). Valinia et al. (2012) showed that the perceptions from local stakeholders of what is a ‘desired state’ of water resources might greatly diverge from the ecological dimension acknowledged in the WFD. Offermans et al. (2011) discussed how social perspectives on water management differ between stakeholders and how they evolve when facing (surprising) external events in order to generate a response. The participatory planning process envisaged by the Directive created the conditions for different perceptions to be expressed and interact, thus adding a level of uncertainty to water management with respect to the management of a plurality of, possibly contrasting, perceptions. We characterise this type of uncertainty as epistemic uncertainty because the challenge is not just about how to solve a problem, but turns also on the questions of how to define a problem, how to know if something is a problem and for whom. This pluralism needs to be accommodated into institutional practices opening a window for innovation and crafting. Failing to do so may pose a risk to quality and implementation of the plan and hamper the possibilities of social learning in the process of adaptation to a new governance model (Ison et al., 2015).

This paper uses the idea of epistemic uncertainty as an analytical approach to assess governance in the context of pluralism. We provide empirical insights from the first full cycle of implementation of the WFD in a semi-arid catchment area in Southern Spain, the Andarax River basin. For this purpose, we focus on the analysis of narratives about water management in four different moments of the implementation process: the development of the first RBMP, the approval of the plan, the end of the implementation phase and the beginning of the second planning cycle. Building on that, we discuss the following questions: How does epistemic uncertainty emerge from the interactions between different narratives in the planning process? How is it handled? How does it influence implementation? To what extent does the RBD adapt to a new model of governance in the context of pluralism? The analytical approach we take engages with the literature on adaptive and systemic governance that adopts an epistemological perspective on the role of knowledge and framing choices in resource management (Ison et al., 2013). Whereas scholars such as Haasnoot et al. (2013) have proposed adaptive pathways to deal with the technical and methodological perspective on uncertainty, their approach assumes agreed goals and that achieving those goals is technically manageable (Bosomworth et al., 2017). There is little attention for operational adaptive governance frameworks addressing epistemic uncertainty in the development of RBMPs. Our work aims to contribute to the creation of such a framework.

2. Narratives in participatory water governance

In this section, we argue that the concept of narratives is a relevant analytical tool in understanding the relationship between epistemic uncertainty and the implementation of the WFD. Narrative analysis is a widespread interpretative analytical tool in policy analysis (Stone, 2002; Yanow, 2003). However, there are different approaches the analysis of narratives. In line with Molle (2008) and Allen et al. (2001) we refer to narratives as stories about causality that provide interpretations of ‘the what’ and ‘the why’ of water problems, as well as potential solutions. Narratives are used to promote specific management models, i.e., the set of management measures and actions needed to deal with defined problems and their associated causes. As such,

narratives may be analysed as filtering mechanisms used to select knowledge claims in the context of pluralism and epistemic uncertainty. Similarly to metaphors, narratives also ‘reveal and conceal’ (Ison et al., 2013). They reveal clusters useful to delve into different understandings of the problem-action duality and the assumptions associated to a given explanation of causality. They conceal epistemological differences in the detailed diagnosis of causes for a given problem or in the proposed courses of action.

Participation introduces a plurality of narratives into water planning. We refer to pluralism to address the consequences of plurality for governance (Skeie, 2006). Narratives pluralism adds an element of uncertainty to governance, because in this context power relations must be continuously reasserted and renegotiated. We characterize this type of uncertainty as epistemic uncertainty, after Funtowicz and Ravetz (1990).¹ Epistemic uncertainty refers to uncertainty in the knowledge base. The introduction of a plurality of problem definitions, knowledge claims and potential solutions generates uncertainty about so-called optimal solutions. Furthermore, the acceptance and influence of a narrative is usually related to its alignment with prevailing narratives and management paradigms (Molle, 2008; Pahl-Wostl et al., 2011). When certain narratives become part of the justification for a management model given by decision-makers, they are said to be sanctioned² (Allan, 2003). Thus, the analysis of epistemic uncertainty turns the focus to understanding how different narratives emerge, how they evolve, and how they are up taken into management models or disregarded, providing a deeper understanding of the knowledge dimension of adaptive governance.

In the case of water management narratives in the EU, the Directive introduces both a new (ecological) narrative and innovative policy instruments, tapping into a policy process different from the previous command and control model (Bouleau and Pont, 2015). Newig and Koontz (2014) describe the new model in two nested policy cycles (Fig. 1). On the upper level, the European Commission has responsibility for guiding the generation of knowledge and scientific tools for the operationalization of environmental objectives, to assess the effectiveness of RBMPs and to update the Directive. On the lower level, the WFD leaves considerable room for River Basin Districts (RBDs) to make political decisions about the definition of relevant water problems and adequate management strategies.

Participatory spaces designed by RBDs open a window for a plurality of narratives to be expressed and, in some cases, interact, within the shorter planning cycle. Local stakeholders have the opportunity to voice their perception on problems and potential courses of action. The expression of different problem framings introduces epistemic uncertainty. Under certain conditions, this pluralism may be handled through the participatory process itself. Factors such as proper representation, two-way communication, good facilitation or intense deliberation have been shown to deliver common understanding and convergence over desired solutions (Drazkiewicz et al., 2015; Kochskämper et al., 2016). Notwithstanding the effectiveness of the process, the final decisions made for the PoM reflect a filtering of narratives into a sanctioned one: the management model that

¹ According to Funtowicz and Ravetz (1990) and Kovacic et al., (2016) there are three different types of uncertainty: 1) technical uncertainty, in which the uncertainty is related to the application of technical knowledge to known challenges, e.g. risk management (uncertainty of outcomes). 2) Methodological uncertainty, in which there is uncertainty about how to apply technical knowledge, e.g. modelling complex systems (uncertainty of know-how). 3) Epistemic uncertainty is the uncertainty about problem framing, not knowing which type of knowledge or which knowledge claim to apply (uncertainty of know-what/problem definition).

² Following Allan, T. 2003, we consider the sanctioning act as the mainstreaming of certain narratives through their adoption and promotion by those with the power of making the decisions about how problems should be defined and addressed. Sanctioning implies that the causal explanations provided by the narratives, their underlying assumptions and uncertainties, are as well adopted and embedded in the implemented actions.

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