Implementing environmental Europe: non-linearity, nature and institutions

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Special Issue

Implementing environmental Europe: non-linearity, nature and institutions

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Abstract:

Biodiversity loss, climate change and natural resource depletion are major concerns at local, state-wide and global scales. In the European context, addressing these challenges depends largely on the implementation of European Union (EU) environmental policy. This Special Issue sheds light on the making of environmental Europe in localised action and practice, from the perspective of non-linearity of policy implementation processes and trajectories. The different articles address three analytical challenges examining policy implementation of (i) highlighting the ties between the macro and the micro scales of implementation; (ii) taking into account the materiality of ecosystems as well as the diversity of forms of knowledge, representations and values associated with nature; (iii) characterizing the new relational configurations emerging between public and private actors involved in hybrid forms of governance. Through examination of the implementation of EU environmental and sustainable development policies primarily in the French context, the Special Issue contributes to a renewed understanding of policy implementation as institutional change. Further, the articles highlight the values underlying the implementation of environmental Europe and the specific role of science in shaping those representations, instruments and strategies at stake.

Editorial: Implementing environmental Europe: non-linearity, nature and institutions

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1. Introduction

Developing legitimate societal responses to pressing environmental problems such as biodiversity loss and increased greenhouse gases is a major challenge facing states and regions. In European countries for some time now, the meeting of these challenges has depended in large measure on the implementation of European Union (EU) public policy. Indeed, EU environmental policy is omnipresent in domestic legislation, translated into national, regional and local rules and norms (Lascoumes, 2012: 11). Yet, the implementation[1] of EU environmental policy (like any public policy) is not a straightforward matter of going from objectives to regulation to impact. On the contrary, EU environmental policy implementation is embedded in different sets of formal and informal institutions and influences, leading to multiple impacts and outcomes (Paavola et al, 2009). Indeed, a wide-ranging literature has attested to the 'politics' of EU environmental policy implementation (Wesselink et al, 2013; Jordan and Tosun, 2013). Furthermore, the introduction of the 'new generation' Directives in the 2000s (e.g. the Water Framework Directive), which gave discretion to national and regional authorities in terms of implementation process and outputs, has tended to reinforce the political nature of implementation decisions (Newig and Koontz, 2014). Already in the 1990s, early versions of historical institutionalism argued that policy implementation processes were characterized by path dependency and unexpected consequences (North, 1990). Since then, constructivist analyses have shown how environmental policies 'elude design' (Cleaver and Franks, 2005); how 'contextualisation' during implementation brings about "profound changes in the form and function of the original program" (Lejano et al, 2007: 177); and how actor practice implementing legislation can have performative outcomes (Bouleau et al, 2018; Carter and Lawn, 2015; Arts et al, 2014). Ultimately, "social change is rather difficult to steer or predict, not only because the scripts and principles cannot be changed overnight, but equally because human improvisation largely escapes control" (Arts et al, 2014: 5).

Rather than seeing such non-linearity in policy implementation as a problem or an 'implementation gap', this Special Issue instead raises its profile as a research object in its own right to grasp the making of environmental Europe in localised action and practice. To do so, the articles develop and apply analytical approaches and integrated frameworks from within several social science disciplines - institutional economics, geography, sociology and political science. Focusing mainly on France (and other selected cases in Europe), they highlight the changing configurations between actors, institutions and 'nature' brought about. France is a

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[1] *Implementation issues include inter alia the politics, economics or sociology of implementation and/or the evaluation of implementation.*

particularly interesting case study because, since the Sarkozy presidency (2007-2012), successive French governments have taken action to de-centralise environmental decision-making (Boy et al, 2012). These decisions have potentially altered the range of actors and type of politics influencing European environmental policy implementation. Indeed, the articles reveal an environmental Europe in the making engaging a range of territories of collective environmental action and provoking new debates over meaningful socio-ecological values and identities.

In its analysis of the implementation of environmental Europe, the Special Issue addresses three little discussed challenges posed for any social sciences seeking to study policy implementation from the perspective of non-linearity. A first challenge is to develop concepts and frameworks which enable the researcher to both identify, and make sense of, the multiple relational "ties between the macro and micro" (Kauppi, 2010: 30-31) which exist in policy implementation (Section 2). A second challenge is to integrate 'nature' into analysis of policy implementation (Choné et al, 2017 (Section 3). Third, the development of participatory procedures and new policy instruments (e.g. market-based instruments or voluntary and negotiated agreements) in EU environmental policy implementation raises the issue of hybrid governance, and the respective roles played by public and private actors (Paavola et al., 2009; Koontz and Newig, 2014; Vatn, 2018) (Section 4). Finally, the articles collectively address the all-important question of the role of science and scientists shaping non-linearity, as well as nature and institutions in EU environmental policy implementation (Section 5).

2. Reconciling top-down and bottom-up perspectives on policy implementation

A first challenge which the articles in this Special Issue address is to avoid any treatment of European environmental policy implementation which reduces it to a specific type of public action occurring at a precise moment in the decisional process. Of course, policy implementation analysis includes the examination of how EU macro-scale 'political ecological' values are taken up within domestic settings. But 'the EU' is neither made only 'in Brussels' (Carter and Lawn, 2015), nor through 'top-down' political processes (Sable and Zeitlin, 2010). Rather, it is made daily and relationally in a variety of spaces, and through different types of public action 'whose interconnections are often ill-defined' (Carter and Lawn, 2015). Indeed, it is at the very intersection of 'the macro' and 'the micro' that Europeanisation occurs. Consequently, research must investigate tensions, conflicts and compromises which emerge not only when local actors implement EU directives, but also when they mobilize any EU environmental ideal, norm or method to confront, and potentially resolve, pressing local issues (Thomann and Sager, 2017).

The article by Aznar (2022) shows how EU agri-environmental policy implementation results from a combined top-down framing of broad ecosystem-based objectives and instruments and bottom-up choices and compromises over policy measures. The article by Carter (2021) also demonstrates the importance of top-down/bottom-up sensitivity for capturing a full range of actor intentions institutionalising European environmental governance. Comparing the uptake of the EU-defined 'ecosystem approach' to govern aquaculture (France, Scotland and Greece), she reveals unexpected actor intentions and different categories of public action (modernizing, competing, appeasing) all in the name of the 'EU'. The articles by Ginelli & Le Floch (2021) and Amblard & Mann (2021) explore in more detail what happens at the intersection of both processes. For example, in their study of the geographical work of local actors implementing key EU biodiversity directives (Birds, Habitats), Ginelli and Le Floch (2021) reveal how implementing biodiversity Europe is a non-linear process in which macro and micro scales are inter-twined, and in which there can be periods of rapid evolution followed by long-term processes (i.e., contests over how to measure and locate natural objects in space and time). This non-linearity opens the door to unpredictable implementations. This theme is echoed in the

article by Amblard and Mann (2021), who conduct their analysis at the landscape scale to grasp EU water policy implementation. Highlighting interactions between macro and micro variables, they argue that the success or failure of multi-stakeholder public action depends on a complex mix of local factors, such as water resource (level of resource degradation, predictability of resource dynamics) and stakeholders' characteristics (availability of knowledge, resources, trust and social capital), as well as 'macro' ones, namely EU and French national water and agricultural policy frameworks and institutions.

The articles by Thomas (2022), Arpin & Cosson (2021) and Chevalier & Vollet (2021) all reveal confrontations, and associated actor compromises, between 'top-down' versus 'bottom up' approaches. Thomas (2022), writing on the implementation of the Water Framework Directive shows how public actor attempts to transform scales of water governance through 'top down' reglementary approaches are confronted with 'bottom up' political work carried out by industry actors (hydroelectricity; irrigated agriculture) and local public actors (e.g., county councils) to either accommodate or go around the rules to protect pre-existing economic and governance practices. Arpin & Cosson (2021) also show how in the establishment of national parks as part of EU biodiversity conservation policy, not only are 'top down' European ideals of legitimacy confronted with 'bottom up' notions of citizen science, but 'top down' notions of conservation are redefined through the local work of national parks over time. In a similar vein, Chevalier and Vollet (2021) highlight how the strategic management, monitoring and evaluation processes of EU Leader projects at the local, regional and national levels depends on local institutional arrangements, characterized by different levels of tensions between conflicting interests and openness of information flows. The (mis)alignment of strategies at different scales affects the economic, social and institutional benefits of Leader projects. Finally, the article by Perrin et al. reveals how the absence of a binding framework at the EU and national scales for achieving ecological connectivity has led to a diversity of approaches in different Member States. In France, the issue of ecological connectivity has challenged the traditional top-down French spatial planning approach, due to its multi-scale nature and geographical specificity, and has led to a complex simultaneous top-down and bottom-up coordination between scales of governance.

3. Integrating "nature" in policy implementation analysis

Policy implementation not only includes actors and institutions but also ecological dynamics and social representations of nature, ethics and attention to space and place. Indeed, whereas for decades nature and culture were treated as separate phenomena, in today's world characterised by global change and climate risk, there can be no mistaking that socio-natural entanglement is a fact of contemporary life (Arias-Maldonado, 2019). Research adopting a social-ecological system perspective has stressed the need for integrating the multiple interactions between social and ecological systems into analytical frameworks, rather than considering them in isolation (Ostrom, 2009). Of course, ecological systems are complex networks of interactions involving multiple scales of space and time (Paavola et al., 2009). Complexity and uncertainty frame the range of options for policy implementation processes and their evaluation (Rauschmayer et al., 2009). Moreover, the making of decisions can be oriented by the multi-dimensional values associated with nature, which are shaped and reinforced by specific social and institutional contexts (Vatn, 2005). Understanding that nature is not separated from values has further allowed scholars to argue that greater attention be paid to diversity in environmental ethics (Larrère, 2017).

The articles in the Special Issue demonstrate how the integration of the materiality of ecosystems, and the diversity of place-specific values and perceptions related to the environment can contribute to EU environmental policy implementation analysis and evaluation. In their study of the implementation of EU water policy in France, Amblard and

Mann (2021) show that uncertainties in the dynamics of hydrogeological systems constrain the definition of actions targeting pollution from agricultural sources. Perrin et al. (2022) also highlight how the complexity, geographical specificity and multi-scale character of the ecological connectivity issue challenges the French top-down spatial planning system. Despite adaptations based on feedbacks between planning levels, the system still fails to account for dynamic ecological processes in planning decisions.

The article by Aznar (2022) contributes to the understanding of EU agri-environmental policy definition and implementation by revealing how distinct notions of 'environmental service' (externality, service activity, ecosystem service), which are underpinned by different concepts of nature, translate into specific policy measures and mechanisms. Indeed, different values granted to nature are at the heart of tensions between two major sources of legitimacy for national parks as tools for biodiversity conservation – substantive and procedural (Arpin and Cosson, 2021). While the substantive, rational-legal approach grants an intrinsic value to nature, the procedural, participatory approach favours a more instrumental perspective, which is reinforced by the increasing use of monetary approaches to evaluate nature conservation policies. The authors explore the potential of two attempts aimed at strengthening the legitimacy of conservation policies by combining the substantive and procedural perspectives: reframing national parks as socio-ecosystems and integrating citizens in biodiversity inventories. Ginelli and Le Floch (2021) make the case for problematizing 'nature' as an important source of power in any analysis of EU environmental policy implementation. They do this by defining and demonstrating the process of 'geographical work' carried out by local stakeholders, scientists and citizens to anchor, and institutionalize, EU environmental policies. This geographical work includes contests over meaningful connections between people and nature and between a policy and its spatial foundation. As they point out, paradoxically this geographical work, which almost invisibilises European institutions, is a critical process through which environmental Europe is built on a daily basis. In line with this focus on actors and their action, in her study of the implementation of 'ecosystem approaches' in aquaculture governance for salmon, trout and seabass and seabream, Carter (2021) shows that different actors understand and politicize the interaction between finfish aquacultural practices and water (rivers, lochs, lagoons) in different ways and for different reasons. Indeed, conflicts over social representations of industry-nature interdependencies are at the heart of aquaculture's economic and political government. The article by Thomas (2022) also highlights how political debate on the relationship between industries (hydropower and irrigated agriculture) and river flows is fundamental to the implementation of the Water Framework Directive in productive areas in France, where sectoral logics of action are still the dominant ways in which ecological transition choices are being politicised.

4. Characterizing new hybrid modes of governance

Implementation not only includes the policy work of public actors, but potentially also the autonomous voluntary self-regulation of private actors, often working with environmental NGOs and scientists. Yet, several studies have shown that, despite the growing use of market instruments and the increasing role of non-state actors, public actors still play a major - albeit different - role in environmental governance (Paavola et al., 2009; Vatn, 2018). Characterizing the new relational configurations between private and public actors involved in EU environmental policy implementation contributes to the understanding of both the potential and the limitations of 'hybrid governance forms' combining state, market and community-based governance features (Lemos and Agrawal, 2006; Ménard, 2011; Villamayor et al., 2019).

Ginelli and Le Floch (2021) highlight the importance of local stakeholders and citizens, as well as scientists, in anchoring EU policies through debating the meaning of natural objects. These discussions take place in a variety of formal and informal spaces of action and over a long

timeframe. They concern which natural objects to select for governance, how and where to measure change in their behaviour and over which time frames. The connection of this work to the construction of the European project is often invisible to participants. Arpin and Cosson (2021) show that the rise of participatory processes in the governance of French national parks along with the 2006 reform has contributed to strengthen their legitimacy, although this legitimacy remains fragile. The authors underline that the balance between the substantive and procedural legitimacy achieved depends on the specific history, including the collaborative tradition, and socio-economic characteristics of the parks. Amblard and Mann (2021) find that governance arrangements for EU water policy implementation combine different forms of stakeholder participation and collaboration together with hierarchical decision-making structures involving formal rules. The analysis underlines that regulations setting quality standards and monitoring/sanctioning systems are needed to address water pollution problems. Within these regulatory frameworks, participation and collaboration are then crucial for reaching water quality objectives. Perrin et al. (2021) show that the integration of ecological connectivity in spatial planning in the French context results from local multi-stakeholder compromises between different economic, social and environmental interests. While the negotiation processes at stake may jeopardise the functionality of ecological networks, they also raise the awareness of a wide range of stakeholders regarding the issue of ecological connectivity. The study by Carter (2021) shows that the uptake of the EU 'ecosystem approach' in aquaculture governance has led to various configurations of actors, dominated by different public and economic actors and their alliances in the Scottish, French and Greek contexts. Nevertheless, in all cases, the participatory political project embedded in the ecosystem approach has not followed the scientific one; a more classical sectoral politics (corporatism, lobbying) still dominates access to decision-making. Similarly, Thomas (2022) shows that while the implementation of the EU WFD has created new interdependencies and configurations between industries and public actors, previous configurations have also shaped and constrained the change of scale underlying the WFD. Finally, Chevalier and Vollet (2022) highlight the limitations of the new configurations involving public and private actors in the implementation of the EU Leader program. The association of private partners in decision-making and fund allocation makes policy implementation more dependent on the interplay of local actors, more difficult to anticipate ex-ante, leading to non-linearity in policy implementation.

5. Science and scientists in EU environmental policy implementation

Beyond meeting specific challenges, the articles in the Special Issue make a transversal contribution on the role of science, and scientists, in EU environmental policy implementation. They provide new understandings of relationships between 'science' and 'policy' associated with non-linearity, nature and institutions. In particular, they show how science and expertise embedded in EU concepts and tools interact with local knowledge and interests in unanticipated ways (Waterton, 2002). Many of the articles examine the implementation of scientific concepts (natural and social), including environmental and ecosystem services, ecological continuity (vertical, horizontal) and ecosystem approaches, that have been institutionalised in EU legislation and policy documents and whose integration in policy implementation follows diverse non-linear trajectories. For example, the article by Aznar (2022) offers an in-depth analysis of the different understandings of 'environmental service' in economics (externality, service activity or ecosystem service) and shows how the different approaches and theories underlying the concept have been translated into different policy measures in EU agri-environmental policy implementation. The analysis shows that the distinct definitions of an environmental service have far-reaching implications for policy definition and evaluation. The author further identifies hybrid policy configurations where different understandings co-exist

as well as dynamic patterns along which the logic of a policy measure evolves over time. Staying with the notion of an ecosystem – here a hydrogeological system - the article by Amblard and Mann (2021) shows that existing scientific knowledge on the dynamics of these systems and pollution sources influence the range of policy options considered by actors for achieving EU water policy objectives at the local level. Furthermore, the existence or absence of scientific knowledge contributes to the convergence or divergence of stakeholders' perceptions of the water pollution problem, thereby favouring or constraining collective action. Access to knowledge depends crucially on the level of human and financial resources available to stakeholders in charge of water quality management.

Concerning ecological continuity, Perrin et al. (2021) underline how developments in landscape and population ecology as a scientific field have led to increasing attention being paid to this concept in EU biodiversity policy. They show that the integration of ecological connectivity in spatial planning at the local level in France depends very much on the availability of ecological data, knowledge and expertise and the capacity of planning authorities to consider such data, knowledge and expertise in planning processes. The article by Thomas (2022) also discusses the implementation of ecological continuity principles endorsed in European legislation, this time in relation to rivers rather than terrestrial ecosystems. He shows how, in their domestic translation, EU scientific 'ecological' ideals of river continuity confront 'industry knowledge' definitions of production continuity and water use leading to local policy conflicts and ultimately partial, fragmented, implementation.

The idea that integrated scientific concepts can become uncoupled in implementation is also the focus of the article by Carter (2021). She shows how the hybrid natural/social concept of the 'ecosystem approach' was conceived in international and European arena through the making of connections between the notion of an 'ecosystem' (from marine biology and fisheries science) on the one hand, with that of participatory governance (from deliberative social and political theory) on the other. Yet, actor intentions implementing this approach provide it with new and unexpected institutionalised meanings, ultimately weakening its ties with its transformative scientific origins and de-coupling its natural scientific project from its social science one.

Moving away from precise scientific concepts to the conceptualisation of 'nature' more broadly, the article by Ginelli & Le Floch (2021) highlights congruences and differences in the roles played by scientists/experts versus local stakeholders and citizens when transforming elements of nature into 'affordances' for EU environmental policy implementation. The authors provide an historical account of changing definitions of wetlands birds and seagrasses held by i) international scientists (ornithologists, plant biologists); ii) regional natural scientists setting indicators to implement EU directives; iii) local people. They show how combinations of different knowledges can both contribute to different degrees of geographical anchoring of environmental policy tools and explain non-linearity in policy implementation. Finally, the article by Arpin and Cosson (2021) is centred on conservation biology and its legitimacy governing nature. Their article discusses the evolution of scientific (social and natural) definitions and sources of legitimacy in French national parks. This shifts from a substantive legitimacy based on conservation science, to a procedural legitimacy involving various stakeholders and their knowledge(s). The authors critically assess recent attempts to combine the two forms of legitimacy with the aim of reconciling ecological approaches and stakeholders' values and interests, namely socio-ecosystem and citizen science approaches, to renew and strengthen the legitimacy of parks.

6. Conclusion

Overall, the articles demonstrate how case-based empirical research can shed new light on the science and policy of non-linearity in European environmental policy implementation. Such case study methods can be useful for complementing large scale comparative country analysis of transposition of EU legislation and its effects on domestic policy (Thomann and Zhelyazkova, 2017). For example, although it has been commonplace to talk about EU policy implementation in binary terms of whether or not a MS is 'over' or 'under' implementing EU policy, in their examination of the transposition of EU environmental legislation in 27 MSs, Thomann and Zhelyazkova convincingly demonstrate why it is more analytically useful to question the 'customization' of EU law and especially its adaptation to local contexts (Thomann and Zhelyazkova, 2017). Presenting a comprehensive overview of customization of EU directives by MSs, this method can further enable research to categorize different groupings of MSs in terms of 'types of customizations'. But, as the authors state themselves, the picture which they paint remains "descriptive and broad" and requires complementing by "case knowledge" (Thomann and Zhelyazkova, 2017: 14). In this respect, the articles in this Special Issue both confirm the general conclusions drawn by these authors that successive French governments have tended to transpose EU environmental provisions quite restrictively and go further to explain how governmental choices have been received, worked upon and in some cases countered by local public and collective private actors and their action (e.g., on the transposition of the WFD). Furthermore, the articles in this Special Issue confirm that 'France's' relationship with 'the EU' is neither a zero-sum game, nor one played by two reified entities: 'France' and 'the EU. Rather, as the articles illustrate, Europe and the EU is a real and imagined 'space of action' (Carter and Lawn, 2015), made and re-made through multiple actor struggles and engagement in a diversity of venues explored throughout.

In this light, the articles in this SI renew research questions on changing state-local relations and how these are influencing environmental policy implementation. As argued by others, in France state/local relations are complex and at times ambiguous (Evrard and Pasquier, 2018). The case studies presented here reveal a reinforcement of local and regional actors in environmental decision-making, multiple interdependencies and distributions of environmental responsibility across regional and territorially specific regularities of action. These territories are not only classic administrative ones - the local authority, the legislative region - but also the water basin management territory, the national park, the sea bay. This being said, the SI articles primarily focus on ecological, rather than climate issues in these territories, and on biodiversity in particular. It would therefore be interesting to compare their results with case studies on the implementation of European environmental policy in respect of climate change or renewable energies. Already, research on energy policy in France points to similar top down/bottom up interactions (Evrard and Pasquier, 2018), yet highlights the strong pull of centralization in the regulation of energy projects (Chailleux and Hourcade, 2021). It would also be interesting to compare the results of these articles, which focus mainly on terrestrial environmental governance (except for the article on aquaculture), with findings on marine environmental governance. In France, this matters especially because whereas recent legislation on biodiversity has resulted in further decentralization of powers in respect of terrestrial ecosystem governance, when it comes to maritime governance this is still the preserve of the French state. Therefore, implementation of European environmental policy in this area has produced other kinds of political tensions, both within the French administration but also between decentralized state regional services and other public and collective private bodies acting in the name of 'the territory'. These kinds of comparison would therefore allow for a more comprehensive appreciation of the influence of EU environmental policy implementation on MS choices and territorial futures.

Hybrid modes of governance crossing the lines of market, community and state governance are prevalent in contemporary environmental governance (Pahl-Wostl et al., 2019). The SI articles highlight both the potential and the limitations of such forms of governance for reaching EU environmental policy objectives. However, little is still known about the performance of the different types of hybrids and the ecological, socio-economic and institutional conditions of their performance (Pahl-Wostl et al., 2020; Blackstock et al., 2021). More particularly, future research could explore the synergies and incompatibilities between those instruments, strategies and rationales underlying the different hybrid forms of governance. Also, the interplay between hybrids and formal and informal institutions, documented in several SI articles (e.g., Thomas, 2022), deserves further attention. In this regard, the adoption of a dynamic and historical perspective could be instrumental in revealing and understanding potential lock-in and path dependence mechanisms at stake in policy implementation processes (Epstein et al., 2020). New types of instruments and procedures also call for re-examining evaluation concepts (Bondarouk and Mastenbroek, 2018). What methods are required for research and practice to evaluate their effectiveness? Understanding the complex causal mechanisms and feedbacks in social-ecological systems imply to engage into interdisciplinary as well as transdisciplinary research (Pahl-Wostl et al., 2020).

Beyond insights regarding environmental Europe in the making, the SI articles offer new concepts and conceptual frameworks for the analysis of EU environmental policy implementation processes. These concepts and frameworks were developed in specific environmental policy fields and institutional contexts. Broadening the range of cases and situations to which they are applied would strengthen their robustness as analytical tools for understanding how diverse socio-ecological contexts frame environmental policy implementation processes.

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