



## Enriching the *Institutional Resource Regime* framework with the *politics of scale* approach

Stéphane Nahrath<sup>a,\*</sup>, Joana Guerrin<sup>b</sup>

<sup>a</sup> Swiss Graduate School of Public Administration - University of Lausanne, Bâtiment IDHEAP, CH-1015, Lausanne, Switzerland

<sup>b</sup> CHROME - Risques Chroniques Émergents - University of Nîmes, Institute of Geography and Sustainability - University of Lausanne, Bâtiment Géopolis, CH-1015, Lausanne, Switzerland

### ARTICLE INFO

#### Keywords:

Institutional Resource Regime  
Functional regulatory spaces  
Politics of scale  
Rhône River basin  
Floods  
Implementation failure

### ABSTRACT

The purpose of this article is to explore the issues associated with the spatialization of the *Institutional Resource Regimes* (IRR) approach. In particular, it discusses the IRR approach in relation with regulatory scales issues. To this end, it first examines the concept of *Functional Regulatory Space* (FRS), which was developed alternatively to IRR in order to account for policy rescaling processes. It then points out some of the limitations of the IRR and FRS approaches with respect to explaining such rescaling processes. In order to overcome these limitations, we then propose some theoretical developments that builds on the “politics of scale” approach. The relevance of these theoretical developments is then discussed on the basis of a case study of a particular FRS implementation’s failure. The *Plan Rhône* was established in order to solve floods issues within the meridional Rhône River basin (South of France). However, it has never been implemented. We develop and discuss three hypotheses to interpret this failure and demonstrate how the “politics of scale” approach usefully complements the IRR and FRS approaches to better grasp the dynamics and complexities of policy scaling strategies.

### 1. Introduction<sup>1</sup>

The *Institutional Resource Regime* (IRR) framework was initially developed to provide a relevant and exhaustive analytical framework for understanding and assessing the (in)coherence of (natural or man-made) resource regimes. Although this field of inquiry is territorial by nature, the IRR framework has not yet explicitly conceptualized the (multi-) scalar nature of resource management issues; nor did it provide a satisfactory conceptualization of the political games that are at work in the definition of the perimeter(s) and scale(s) of resource regimes. Moreover, there is a conceptual confusion between the *scales*, *levels* and *perimeters* of resource regimes. A first attempt to clarify this confusion has been made through the development of the *Functional Regulatory Spaces* (FRS) concept. The aim of this concept was to account for the major transformations currently affecting environmental (as well as other sectorial) policy processes, which are being increasingly inter-sectorial, trans-territorial and multi-level. In so doing, it enriched the IRR approach, by transforming its perimeter and level focus into a truly (multi-)scalar approach. However, we argue that the FRS concept still currently suffers from a crucial limitation regarding the issue of scale, as it remains fundamentally influenced by a “functional fit” approach

and does not fully integrate the inputs made by other analyses such as those offered by the *politics of scale* approach, which develops a deeper and more causal understanding of policy rescaling processes.

The aim of this article is to enrich the IRR and FRS frameworks with some central theoretical propositions of the *politics of scale*’s literature, in order to better account for the political games and conflicts which are constitutive of the success or failure of an FRS. The relevance of this theoretical proposition will be illustrated and assessed through the analysis of an empirical case study, which is the failure of an FRS’s implementation process within the meridional Rhône River basin in the South of France.

First, we introduce the theoretical issue that we will discuss in this article (Section 2). Then we briefly describe the case study that we will analyze (Section 3). We present the existing politics of scale literature and develop two hypotheses on how this approach can help us identify and understand the socio-political factors and conditions for the emergence, success or failure of an FRS (Section 4). We then discuss these hypothesis in relation with the empirical case study (Section 5). Finally, we demonstrate how the “politics of scale” approach usefully complements the IRR and FRS approaches in understanding the dynamics and complexities of policy scaling and rescaling processes

\* Corresponding author.

E-mail addresses: [stephane.nahrath@unil.ch](mailto:stephane.nahrath@unil.ch) (S. Nahrath), [joana.guerrin@unimes.fr](mailto:joana.guerrin@unimes.fr) (J. Guerrin).

<sup>1</sup> This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

(Section 6).

## 2. Theoretical issue: explaining IRR rescaling processes

The epistemological status of the IRR framework is basically *heuristic*. Influenced by the *rationalist new institutionalism* perspective,<sup>2</sup> the purpose of this framework is to account for the effects of public policies and property rights on resource management (Gerber et al., 2009). Although most of the cases that have been investigated and interpreted through this analytical framework involved issues of institutional levels or spatial perimeters, these two (interdependent) issues have, to date, only been addressed – mostly implicitly – in terms of IRR's and/or Local Regulatory Arrangements' (LRA)<sup>3</sup> *perimeters*, or in terms of *institutional levels interlocking*; they have never been apprehended in terms of *scales*, or policy rescaling.

Furthermore, these issues have mostly been addressed from a “functional fit” standpoint (Ekstrom and Young, 2009; Ostrom, 1990, 2009; Folke et al., 2007), an epistemological perspective which aims to answer the *analytical* question of the “impacts” of specific perimeters and/or institutional levels on the regulatory capacity of an IRR/LRA (e.g. Nahrath, 2003); and the *normative* question of the definition of the most suitable perimeter and/or institutional level for achieving sustainable resource management goals (e.g. Knoepfel et al., 2007: 496–499).

Yet we argue that such an approach fails to consider two fundamental issues:

- 1) The IRR approach does not explicitly distinguish between *perimeters*, *levels* and *scales*<sup>4</sup>. As a consequence, it does not account for the (causal) relationship that can exist between (1) the perimeter of a problem, (2) the governmental level(s) in charge of its regulation and (3) the scales (or the multi-scalar nature) of resource management issues (i.e. the scope of the public issue and the scope of the regulatory regime in charge of the regulation of this issue)<sup>5</sup>.

<sup>2</sup> This perspective differs from the “territorial institutionalism” (Carter and Smith, 2008) or the “sociological new institutionalism” (e.g. Powell and DiMaggio, 1991) perspectives.

<sup>3</sup> See the introductory chapter by Gerber et al. for a comprehensive presentation of these concepts.

<sup>4</sup> Following some of our previous works (e.g. Faure et al., 2007), we distinguish between these different concepts using the following definitions: (1) a *perimeter* is the *geographical/spatial surface* related with the physical manifestation of a specific public issue or IRR/LRA jurisdiction in charge of its regulation; (2) an *institutional level* is a spatialized component of the hierarchical State organization which is in charge of specific regulatory tasks and competences; (3) the *scale* is the focal length (small-scale versus large-scale) – or the “scope” – that is used in the observation, apprehension or representation of the empirical world. The scale determines what the observer is able or is not able to see, analyze or understand. It also determines how political problems are framed and how public policies or resource regimes are designed. Following H. Lefebvre (1990 (1974)), one can consider geographical scales as spatially differentiated modes of organization/structuration of social relations, each scale corresponding to a specific configuration of power that produces (more or less legitimate) social inequalities or discrepancies in resource ownership or the allocation of use rights; (4) the *analytical scale* refers to the focal length adopted by the observer of a specific policy process.

<sup>5</sup> For example, such a conceptual distinction could be beneficial to the analysis of urban transport policies, in which the change of institutional level (transfer of competences from the municipal level to the metropolitan/regional level) often implies a redefinition of the *scope* of the public issue and main causal hypothesis of the policy design. While the municipal policy design consists in a sectorial policy focusing on the limitation of traffic air pollution in city centers, the metropolitan/regional design consists, in contrast, in an integrated, inter-sectorial metropolitan mobility policy, based on the coordination of modes of transport and a modal shift towards public transports. This example illustrates quite well the difference between “institutional level transfer” and “policy rescaling” processes.

In terms of *governance*, the IRR allows to analyse (the coherence of) the interlocking of the institutional rules that can be produced by different institutional levels (from local to international). However, it does not sufficiently account for “scale effects” such as the redefinition of public problems scopes and/or the redistribution of competences across institutional levels. It also has difficulties to explain the political games and strategies around these strategic policy rescaling processes.

In terms of *spatiality*, IRR allows to grasp – though mostly from a functionalist perspective – the impact of (changing) resource system boundaries in IRR/LRAs regulatory processes. However, it is not well equipped to explore and explain the socio-political implications of a “territorial rescaling” (i.e. the extension of an IRR perimeter beyond the limits of a single institutional territory; such a “trans-territorial” extension being more conflictual and more complex politically)<sup>6</sup>.

In the case of *policy sectors*, the IRR approach is in contrast well equipped, as the concept of “policy design” is particularly relevant in accounting for rescaling processes in terms of inter-sectoriality (cf. introductory chapter by Gerber et al.).

- 1) The IRR “functional fit” perspective fails to consider a central analytical issue, that is, as suggested by the *politics of scale*'s literature (e.g. Brenner, 2001; Howitt, 1998, 2003; Lebel et al., 2005; MacKinnon, 2011; Molle, 2007; Moore, 2008; Neumann, 2009, 2015; Norman et al., 2012; Rangan and Kull, 2009; Smith, 1984, 2000; Swyngedouw, 1997, 2004), the various processes of redefinition of the resource perimeter and scope of the public issue. This perspective also fails to recognize that the rescaling of regulatory regimes (e.g. the redefinition of hierarchies between policy sectors, the reallocation of competences among institutional levels and the creation of new geographical boundaries beyond existing institutional territories) are not only the result of a functional fit process (i.e. a functional result of resource system characteristics), but a political construct (see Guerrin, 2014 for a more comprehensive review of this IRR framework's limitation).

On the basis of this statement, a first attempt to clarify the conceptual confusion between resource regimes' *scales*, *levels* and *perimeters* has been made through the development of the concept of *Functional Regulatory Spaces* (FRS) (Balsiger and Nahrath, 2015; Nahrath and Varone, 2006, 2007; Nahrath et al., 2009; Varone et al., 2013). The aim of this concept was to account for the major transformations that currently affect (environmental) policy processes and are being increasingly inter-sectorial, trans-territorial and multi-level. The main characteristics of the FRS concept are the following (Varone et al., 2013: 320):

*“An FRS is a regulatory space, which politically emerges in order to tackle, support or solve problems concerning several policy sectors in different institutional territories and at different levels of government. Such problems include, for example, climate change, integrated water basin governance, financial crises, “centrality loads” in urban areas, etc. (...) In essence, an FRS is defined as a new regulatory space considered functionally appropriate – that is, geographically and socially relevant and politically legitimate – for the arbitration of rivalries and conflicts between the different groups of actors concerned. (...) FRSs are functional in the sense that they redefine the social and geographical spaces that are considered politically relevant for managing such problems. This redefinition process follows ad hoc criteria referring both to the physical area concerned in the problem and to the web of relationships linking*

<sup>6</sup> As we will see below with the example of the Rhône River basin in the South of France, the IRR framework, unlike the territorial institutionalism approach (Carter and Smith, 2008), does not provide specific and efficient analytical tools to account for the sociopolitical and institutional implications and conditions of a trans-territorial (e.g. inter-regional or international) extension of a water basin regime.

stakeholders, rather than the existing boundaries of policy sectors, institutional territories or levels of government. In other words, FRSs are alternative regulatory spaces within which it becomes possible to tackle new types of problems that cut across various socioeconomic sectors as well as institutional territories and government levels.”

An FRS constitutes simultaneously a space of (resource uses) rivalries and a space of political regulation of these rivalries. It is important to note that the (more or less clearly territorialized) boundaries of an FRS are defined by the configuration of the stakeholders rather independently of the pre-existing sector-specific policies and institutional territories<sup>7</sup>. Thus, the constitution of an FRS implies *three simultaneous policy rescaling processes*:

“(…) the emergence of an FRS requires various kinds of reorganization processes between different policy sectors, institutional territories and/or levels of government. Because of the extensive interdependencies between inter-policy, multi-territorial and multi-level governance – and the resulting resistance to change – it is suggested that the emergence of FRS goes together with “political rescaling” processes. {Thus} an FRS implies (1) a redefinition of the hierarchical relationships between policy sectors, (2) new geographical perimeters of the political regulation and (3) a redistribution of competencies between levels of government” (Varone et al. 2013: 321).

This focus of the FRS concept on inter-sectorial, trans-territorial and multi-level governance rescaling processes make a significant difference between IRR and FRS regarding their respective conceptions of spatiality, as well as the ways in which they conceptualize the role of space and territory in the analysis of environmental governance and resource management. While IRR conceptualize spatial and territorial issues in terms of perimeters and levels, FRS develop a more dynamic and complex approach in terms of scales and policy rescaling processes. Table 1 (below) summarizes the main differences between IRR and FRS concepts, and the Politics Of Scale (POS) approach.

Focusing on rescaling processes, one of the main theoretical challenges of the FRS approach consists in explaining FRS emergence, success or failures. On the basis of previous works on FRS issues (in particular: Balsiger and Nahrath, 2015; Nahrath, Varone 2006, 2007; Nahrath et al., 2009), this approach allows us to elaborate the following hypothesis:

#### Hypothesis 1. Paradoxes of FRS emergence

The creation of an FRS places it in a conflicting position with pre-existing policy sectors and institutional territories: while the creation of (new) inter-sectorial and trans-territorial regulations implies to challenge pre-existing (sectorial and territorial) institutional rules and organizations, the building of an FRS relies structurally on the permanency of the regulatory capacity of these rules and organizations. Thus, the creation of an FRS implies to delegitimize all pre-existing sectorial and territorial regulatory institutions. Yet at the same time, the implementation of an FRS is depending on the legitimacy of these regulatory institutions for generating its own regulatory capacity. FRS legitimacy, however, remains essentially virtual as long as it has not been concretely implemented. In fact, this virtual legitimacy (i.e. “à credit”) depends on the seriousness of current sectorial and territorial regulatory deficiencies, as well as on the logical coherence of the alternative solutions proposed by the emerging FRS promoters (Balsiger and Nahrath, 2015).

Although the concept of FRS contributed to the integration of the issue into the IRR approach, we argue that it still suffers from some

<sup>7</sup> “More precisely, there are various possible forms of geographical manifestation of an FRS: for example, surface (areolar) versus network (reticular); diffuse versus clearly bounded, etc. The shape depends on the stakeholders’ perception of the characteristics of the problem addressed. Some problems are characterized by quite clear geographical boundaries (e.g., integrated water basin management), while others are much more diffuse (e.g., food safety, technological risks).” (Varone et al., 2013: 320)

significant limitations. In fact, the FRS concept – like the IRR approach – fundamentally builds on a “functional” approach (cf. theoretical premises in Table 1) and does not fully integrate inputs from other analyses such as those offered by the *politics of scale* approach, which offers a deeper and more causal understanding of policy rescaling processes. In particular, the multi-scalar FRS multi-scalar, like the IRR approach, is limited to an identification and description of the *conditions* and *obstacles* – understood as “paradoxes” (cf. hypothesis 1 above) – to the emergence and institutionalization of an FRS. It does not provide any conceptualization or clear causal explanation of the social, cognitive (social representations, beliefs systems, “referentials”, etc.), political, economic, institutional and historical factors etc., that can be at the origin of the “multi scalar” strategies that are frequently developed by the different actors involved in the formulation and elaboration of an IRR, or in the formulation of a LRA (which enables the IRR’s implementation). Thus, if FRS proponents agree with the idea that scales are political constructs and that policy rescaling involves heavy power struggles, it does not yet provide any robust explanation of *how* and *why* FRS emerge, succeed or fail.

In other words, while the FRS framework contributed to the integration of the (multi-)scalar approach – and the concept of “scales” – into the IRR framework, it does not explain which are the *socio-political factors* involved in the success or failure of an FRS. In a nutshell, the concept of FRS allows for the introduction of the notion of “scale” into the IRR approach, yet it fails to integrate the political dimension of scales into its analysis.

This theoretical discussion on the issue of scale in resource governance results in a central research question: How can we explain IRR rescaling processes, and more particularly what are the socio-political factors, triggers and conditions for the emergence, success or failure of an FRS? In the next section, we present the empirical case of an FRS implementation process failure<sup>8</sup> that will help us answer this question.

### 3. Empirical puzzle: the failure of the implementation of the meridional Rhône River basin FRS

In France, major floods occurred in the 1990s and 2000s. On the Rhône River, State officers tried to change the governance’s scale through moving from a centralized flood policy to a river-basin level governance of flood management, with the aim of preserving and enhancing the floodplain retention capacity. In 2007, a strategic and financial contract called *Plan Rhône* was framed between the central State, the Regions, a private company in charge of managing the river and the EU. This contract pursued both ecological and risk management objectives. It was organized at the scale of the French part of the River (from the Swiss border to the Mediterranean Sea) and was tackling six different sectorial issues: energy, transportation, water quality, risk management, tourism development, and the promotion of cultural heritage. Beyond those various aims, risk management was clearly the *Plan Rhône*’s main objective in terms of financial (it accounted for 36% of the total budget) and strategic governance (the *raison d’être* of the Plan was to answer the flood problem). According to its stated objectives, the main goal of the Plan’s risk management strategy was to enhance floods management’s sustainability. More concretely, the Plan aimed at restoring floodplains, through the removal of existing dykes<sup>9</sup>. However, the actors in charge of its implementation (the State

<sup>8</sup> This case of an FRS implementation failure within the meridional Rhône River basin in the South of France was previously analyzed by J. Guerrin (2014).

<sup>9</sup> This objective was inscribed in 2005 within a State-Regional Plan Contract (CPER), funded partly through European Funds (European Regional Development Fund). This objective was included in the Water Development and Management Plan defined at the level of the watershed (SDAGE). The SDAGE reinforces the binding character of this objective since local urbanization plans (at the municipal level) must be consistent with SDAGE objectives.

**Table 1**

Differences between IRR, FRS and POS regarding their theoretical premises and analytical dimensions.

Source: authors

Theoretical Premises		« Functional fit »		Social and political constructivism
<i>Approaches</i>		<b>IRR</b>	<b>FRS</b>	<b>POS</b>
<i>Concepts</i>		Perimeters and levels	Scales and policy rescaling	Scales as political constructs
<i>Analytical dimensions</i>	<i>Sectors</i>	Inter-sectorial	Inter-sectorial	Issue not directly addressed
	<i>Spatiality</i>	Perimeters	Trans-territorial	Institutional territories as political constructs
	<i>Governance</i>	Interlocking of institutional levels	Multi-level governance (such as found in Type II MLG –cf. Hooghe and Marks, 2003)	Rescaling as power games

representatives from the Ministry of the Environment<sup>10</sup>) decided to concentrate the floodplain restoration strategy within one specific territory. During the implementation process, the two municipalities located on this territory opposed the project. After several years of dispute through medias or public meetings, the project was abandoned. As a matter of fact, at the end of the first Plan Rhône (2007–2013), existing dykes were reinforced and no floodplain was restored. Therefore, this outcome can be considered as a failure to implement a new FRS to effectively deal with the rescaling of flood management on the Rhône River.

The case study data draw from a qualitative empirical survey that was led between 2009 and 2013 in the context of a doctoral thesis (Guerrin, 2014). A total of 62 semi-structured interviews were conducted with actors who were engaged in flood governance on the Rhône River between 2003 and 2013 (most of them were Plan Rhône's participants, state officials at the central and local levels, NGOs, local elected representatives, and members of the private company in charge of managing the Rhône River). The interviews were transcribed and analyzed qualitatively. Moreover, public documents dealing with floods were analyzed along with historical archives produced at the time of the construction of the river management infrastructures along the river. This case study was presented and analyzed in more details in previous works by Guerrin (Guerrin et al. 2014b, Guerrin, 2015). In this paper, the case study is used as an illustration of the main argument.

#### 4. Theory: enhancing FRS explanatory capacity using theoretical and conceptual propositions from the politics of scale's literature

Human geography scholars have long emphasized how scales are socio-political constructs (Taylor, 1984; Smith, 1984). In this view, “spatial scales do not (...) rest as fixed platforms for social activity and processes that connect up or down to other hierarchical levels but are instead outcomes of those activities and processes, to which they in turn contribute through a spatially uneven and temporally unfolding dynamic” (Gregory et al., 2011, p. 665). More specifically, some scholars developed a body of literature dedicated to what they called the “politics of scale” (e.g. Brenner, 2001; Howitt, 1998, 2003; Lebel et al., 2005; MacKinnon, 2011; Molle, 2007; Moore, 2008; Neumann, 2009, 2015; Norman et al., 2012; Rangan and Kull, 2009; Smith, 1984, 2000; Swyngedouw, 1997, 2004). Their works deal with the inherent political dimensions of scales. Although this literature includes a vast, heterogeneous body of works, this article builds on the following principles:

- i) *Scale is not a given but an outcome (it is produced) and a process (it is not fixed)*. In this perspective, scholars using the “politics of scale” approach deconstruct scales definitions and rescaling operations. Thus, research focus should be the “scalar practices of social actors”; rather than scale as an analytical category (Moore, 2008).
- ii) *Scale definition and rescaling processes create winners and losers*. In

<sup>10</sup> And more specifically, the DREAL : Direction Régionale de l'Environnement, de l'Aménagement et du Logement.

this perspective, a specific definition of scale can empower some actors and disempower others. As a result, scale/rescaling processes are political issues and can be subject to conflicts. Neumann (2009) argues that attention to power asymmetries is critical for understanding networked relations within and between scales. With his concept of “scalar politics”, MacKinnon (2011) argues that it is often not scale *per se* that is the prime object of contention, but rather specific processes and institutionalized practices that are themselves differentially scaled. Lebel (2005) argues that the “politics of scale”, which refers to actors who contest the spatial extent and the level of resolution of information and decisions, should be distinguished from both the “politics of position” and the “politics of place”<sup>11</sup>.

- iii) *Individuals or social groups have an unequal access to scales depending on their economic, political or social resources*. Many authors (e.g. Lefebvre 1990 (1974); Faure et al., 2007; Swyngedouw, 1997, 2004) have emphasized the relationships between social, economic and political power of the actors and their ability to play with scales, to reshape them, or to redefine their hierarchical relations. Thus, according to Swyngedouw (2004: 133), “social power along gender, class, ethnic or ecological lines refers to the scale capabilities of individuals and social groups”. This causal relationship between the social power of individuals and their “scale capabilities” is two-way and tends to involve the production of forms of domination: on the one hand, existing scalar hierarchies tend to determine the unequal allowance of resources, on the other hand, this unequal allowance of resources tends to limit the scaling and rescaling capabilities of the poorest.
- iv) *The production of discourses or narratives about scales is itself a participation into the so-called “politics of scale”*. Swyngedouw (2004) showed for instance how the mobilization of a particular scientific discourse on a specific physical scale (a river basin) became an arena for the staging of political power choreographies that were decisive in shaping modernization processes in Spain.

Table 1 summarizes the specificities and complementarities between the IRR/FRS and POS approaches. It shows how the socio-political constructivism premises of the POS approach may help developing (individual and collective) actors-centered explanations of policy rescaling processes (i.e. the success or failure of FRS implementation).

Thus, drawing on some of the main theoretical contributions and concepts of the politics of scale's literature, we add two more hypotheses to the explanation of the emergence, success or failure of an FRS:

<sup>11</sup> The “politics of position” refers to politics among locations that depend on their relative physical position, for example, between upstream and downstream water users or those on different banks of a river” (Lebel 2005:2). The “politics of place” refers to the “unfolding of power relations among stakeholders that arise because of the special characteristics of the places interacting above and beyond those arising from levels or position” (*ibidem*).



**Hypothesis 2.** The “Functional fit” theory does not provide any explanation for the emergence and success of an FRS. Rather, it develops a (normative) political claim that contributes to (IRR) rescaling processes. Thus, scales “are not only arenas of social power struggles, but also their very objects” (Brenner, 2001: 608). In fact, there is no single but a plurality of functional definitions competing in the political arena regarding FRS definition and implementation; for the definition of the relevant scale(s) of a resource management issue, as well as of the legitimate institution to take charge of it, is submitted to more or less historically-rooted, institutionalized, and conflicting representations.

Thus, rescaling strategies (i.e. FRS implementation) are political processes, the successful legitimization of which mainly depends on the convergence (or at least the compatibility) between (1) FRS settings and (2) the longstanding beliefs that were historically produced by – and incorporated into – political and administrative institutions.

**Hypothesis 3.** Scales are political constructs rather than physical realities. Strategies to change the settings of problem-solving scales require the support of the relevant actors, but can simultaneously trigger conflicting claims. Indeed, losers of a specific scale framing are likely to develop rescaling strategies in order to change the legitimate scale of public intervention.

Thus, rescaling strategies (i.e. FRS implementation) are political processes, the successful legitimization of which mainly depends on:

- (1) *the existence or the emergence of a specific group of actors—the “scale builders” (Howitt 2003:150)—who are specialized in the production of alternative FRS settings;*
- (2) *the degree of convergence/divergence of the belief systems (and interests) of the actors (coalitions) involved in the policy rescaling process;*
- (3) *the political power of the FRS supporting actors’ coalition(s) within the policy rescaling process.*

## 5. Discussion

In this section, we discuss the three hypotheses that were developed in Sections 2 and 4 using empirical evidences provided by an in-depth analysis of the failure of *Plan Rhône*’s implementation (Guerrin, 2014; Guerrin et al., 2014; Guerrin, 2015).

**Hypothesis 1.** The case of *Plan Rhône* confirms the fact that emergent FRS tend to experience conflicting relationships with existing sectorial policies and institutional territories.

Through the “Floodplain optimization program”, *Plan Rhône* leaders tried to impose their own views on the issues they had to face. As flood experts, they regarded these issues as being mainly hydrological issues. In this respect, they tended to develop new priorities among sectorial objectives which were mainly directed towards fighting floods, devoting less attention to other usages such as hydroelectric production, navigation, or the development of irrigation capacity. Those usages were managed historically by a semi-public company called the *Rhône National Company* (RNC). Furthermore, the redefinition of the size and location of flood risk areas and the prioritization of flood fighting objectives are made at the expense of some farming activities; for they often lead to the categorization of agricultural areas as flood risk areas, that make them unsuitable for farming.

Yet, in order to develop these new priorities, the *Plan Rhône*’s developers need to rally a large number of both public and private actors coming from different institutional levels and from different territorial scales (Table 2).

The aim of the mobilization of various actors and organizations working in the management of the river basin is to put their sectorial resources, skills, and authority at the service of the *Plan*. However, the *Plan Rhône*’s attempt to appropriate regulation capabilities through the

takeover of public policies’ instruments that were historically under the authority of previous sectoral administrations, or under the responsibility of municipalities and regions was not productive. The *Plan*’s developers pushed for transferring authority in decision making and project implementation from municipalities to the river basin agencies, whereas the coverage of potential flood costs remained the responsibility of municipalities and land owners. *Plan*’s developers tried to impose a new flood management strategy in order to redistribute the flood-risk share between municipalities. The idea was to better protect a (medium-size) municipality, which necessarily implied to offer less protection to two other (and smaller) municipalities that were located upstream. However, no economic or technical compensation was planned for the smaller municipalities that were to be impaired: *Plan Rhône* developers did not have any power regarding local planning, and they were expecting the beneficiary of the best protection (the medium-size municipality) to take charge of the coordination of the negotiation and compensation agreement that may be reached with the impaired municipalities.

However, the elected representatives of the municipalities criticized the capacity of *Plan Rhône* to efficiently take charge of the flood issue through the floodplain restoration program. On the one hand, it was said that the upstream municipalities would be impaired by being too severely impacted by the redistribution of the flood-risk share. Moreover, the agricultural lands that were located upstream would have been damaged by the flooding should it occur. On the other hand, the downstream municipality felt that the program was not sufficiently advantageous. Finally, RNC refused to take responsibility for modifying the dykes that were created for hydroelectricity purpose. For these reasons, several major actors, among which RNC<sup>12</sup>, municipalities, local land owners and inhabitants, called for a rescaling of the problem at a State level.

The example of the *Plan Rhône* illustrates the difficulties of this FRS to gain legitimacy in the eyes of citizens and politico-administrative actors in charge of the implementation of existing sectorial policies. In fact, most of these actors consider that this plan is inconsistent and ineffective for coordinating the water uses within the river basin. They do not believe it can tackle water management issues any better than the existing sectorial and territorial regulations already do. In particular, the *Plan* is not considered more effective for minimizing flood risk at a scale that would be approved by all.

The discussion of hypothesis 1 shows both its contribution and its limits to the understanding of FRS success and failure. It illustrates how FRS approach allows to identify the institutional (i.e. sectorial and territorial) factors that explain the failure of FRS implementation. Yet, this discussion equally demonstrates the limitations of the FRS concept which remains mainly descriptive. Moreover, the FRS concept does not allow to understand the dynamics and complexities of the actors’ actions, nor the power games that characterize rescaling processes. Hypothesis 2 and 3 try to overcome these limitations.

**Hypothesis 2.** As stated by Guerrin, 2014: 2411:

“Unlike *Plan Rhône* leaders, other actors in *Plan Rhône* [e.g. RNC, municipalities, local land owners and inhabitants] did not perceive the flood issues in terms of retention capacity. According to their vested interests and leeway for action they rescaled the issue during the process. Their definition of the problem drew different system boundaries and another level of legitimate governance, that of the State. The legitimacy of the State results from a long story of State intervention on the Rhône River. Despite their willingness to

<sup>12</sup> In the RNC’s case, the argument of a rescaling of flood issue at a national scale was meant to outline the fact that flood fighting did not fall under the RNC’s jurisdiction and that the company had to comply with a set of existing rules and objectives (including the production of hydroelectric power) that had already been defined at a national level.

**Table 2**  
Spatial scopes and responsibilities of actors and institutions in relation to flood management on the Rhône Valley (France).  
Source [Guerrin et al., 2014](#): 2409.

Actors and institutions	Spatial scope	Responsibilities
Landowners	Their property	Maintaining existing private dykes on their land Respecting construction rules
Municipalities (“Communes”)	Municipal area (about 16 km <sup>2</sup> in average)	Responsible for ensuring inhabitants’ safety. Issuing building permits in accordance to their state-approved urban planning document and PPRI (land use regulation linked to flood exposure)
SYMADREM (association of local authorities)	Rhône delta (association of 15 municipalities, 2 Departments, 2 Regions)	Maintaining dykes and levees on behalf of the landowners (240 km of levees and dykes)
<i>Territoire Rhône</i>	Rhône River (association of the 11 Departments along the Rhône)	Created after the 1990s floods for funding expertise on the Rhône River. Dismantled in 2011.
Departments (“Départements”)	340 municipalities in average (about 5560 km <sup>2</sup> )	No compulsory responsibility for flood management, but may be involved. In charge of public equipments that may be damaged by flood (e.g. roads). Departments can be involved in association of local authorities (i.e. Symadrem). On the Rhône, they are involved in <i>Plan Rhône</i> through steering committees
Regions (“Régions”)	4 to 8 departments (about 30,000 km <sup>2</sup> in average)	No compulsory responsibility in flood management but may be involved. In charge of public equipments that may be damaged by flood (e.g. secondary schools). Main strategic and financial partners of <i>Plan Rhône</i>
CNR (Compagnie Nationale du Rhône)	Rhône River  (Infrastructures r from the French-Swiss border to Beaucaire, upstream of Rhône Delta.)	No responsibility in flood management. Building and operating dams and dykes for hydropower, irrigation and navigation
Plan Rhône partnership	Rhône River (from Swiss border to the Mediterranean sea)	Defining a sustainable development strategy for the Rhône River  Granting funds to local governments, project managers or inhabitants wishing to implement projects consistent with the strategy Main strategic and financial partners: State, Regions, CNR, EU
The Rhône Water Agency	Rhône River Basin	Allocating water at river basin level and defining the overall strategy and objectives for water management (SDAGE document)
State officials	Department level Region level River basin level National level (France)	Approving urban planning documents in high risk areas Mapping flood risks and enforcing flood regulation Steering the process of <i>Plan Rhône</i>  Law production regarding urbanization in flood prone areas and flood protection infrastructure standards. Financial support to municipalities for dyke maintenance. Conceding contracts for hydropower on the state-owned Rhône River. Main strategic and financial partners of <i>Plan Rhône</i>

implement a decentralized governance at river-basin level, State officials are imbued with beliefs inherited from State-level institutions.”

The policy rescaling process arising from the Plan Rhône was inconsistent with existing French views and beliefs about flood policy. Indeed, state legitimacy in France has been historically built on the protection of citizens against risks since the 19<sup>th</sup> century ([Guerrin, 2014](#)). The national French flood protection policy was historically built from the Rhône and Loire River – after catastrophic floods on both rivers occurred in 1856 ([Picon et al., 2006](#)). At that time, Napoléon the III<sup>rd</sup> launched major public works aiming at protecting major cities against floods, and passed the first law (in 1858) enabling the State to realize the flood protection works of major cities in France, demanding a financial participation from the municipalities ([Méjean, 1996](#)). From the 19<sup>th</sup> century, the State action on the Rhône river had gradually been constructed around flood protection and river management ([Guerrin, 2014](#)). Later, after WW2, the legitimization of the State grew again around the Rhône River. The State, by means of the creation of various (semi-)public companies, developed the river as one of the main navigation channels in France (*Voies navigables de France*), as an important source of hydraulic energy production (EDF), and as a host site for nuclear plants (EDF). The Rhône is in the public domain and it is managed by a semi-public company (RNC) since 1934. This governance mechanism, a highly technocratic and centralized management of the River from Paris, was not challenged until the development of the Plan Rhône program. Therefore, the rescaling proposed by the Plan Rhône program completely contravened the beliefs that the local inhabitants and elected representatives held about the management of floods at the

national level ([Guerrin, 2014](#)). More specifically, the rescaling was inconsistent with State officials’ situated beliefs and partial ignorance regarding these matters. State representatives tried to implement the floodplain restoration strategy on the Rhône River, but ignored the local specificities of the territory concerned by the project (i.e. the topography, the existing infrastructures, as well as political and social stakes). However, those uncertainties were actually *blind spots* created by State representatives’ unprecise consideration of that territory ([Guerrin, 2014](#)). Moreover, they overestimated their capacity to influence the central government towards the implementation of the project. They were unable to convince or to force the various companies and municipalities that would have been involved in the river management (cf. [Table 2](#)) to implement this strategy. On the one hand, they overestimated their knowledge of the local issues; on the other hand, they overestimated their capacity to influence decisions at the central level. Those imprecisions severely impacted the project since no local actor was willing to implement it, and the State representatives were not allowed to do so themselves (cf. hypothesis 3 (1) on the importance of “scale builders”).

The case of the Plan Rhône illustrates how the rescaling propositions of FRS developers conflict with sectoral and territorial administrators’ institutional traditions, inherited belief systems, and embodied perspectives. This case equally demonstrates the role of these beliefs, habits and administrative routines in the resistance shown by the actors, and, ultimately, the role they play in the failure of the Plan’s implementation.

**Hypothesis 3.** The implementation of the floodplain restoration project clearly suffered from the absence of qualified actors who could have

eased collaborations between Central State administrators, regional State representatives promoting the Plan Rhône, the local authorities, the land owners and the local population. In fact, none of the actors listed in Table 2 was able to act as effective “scale builders” (Howitt, 2003: 150), i.e. public actors who would have been able to gain support from private stakeholders such as energy producers or land owners, in order to promote the Plan Rhône as a convincing and legitimate alternative institutional setting for coordinating flood issues with the other major usages of the Rhône River. Other Plan Rhône partners did not participate evenly as FRS leaders. They mostly devoted themselves to the policy sectors in which they had more interests (water quality for the Water Agency, or the valorization of heritage sites for the Regions). Regarding floods, the leaders were regional State representatives from the Ministry of Environment. Located in Lyon, they were not known at the local level and rarely present in the field. They couldn’t act as effective scale builders because of a lack of competency regarding participatory policy procedures, weak communication skills, beliefs that contravened those of local and sectorial actors, and a lack of political power.

Indeed, the failure of the Plan Rhône can be partially explained by the divergences that exist between the beliefs of its leaders and those of the local authorities. The Plan Rhône’s leaders were mainly young State engineers with an environmental conception of flood management. Under the influence of new public management schemes, they were convinced of the inefficiency of centralized flood management and were therefore in favor of a local definition of risk management.

However, the Plan Rhône’s leaders endorsed a technocratic style regarding decision-making: they considered flood risk management as a technical matter, and regarded municipal representatives as unable to separate public interest from their own individual interests. Moreover, municipal representatives considered that the State was not supposed to act at the local level without offering compensations. Thus, paradoxically, local authorities were supporting a centralized conception of risk management and flood policies, whereas State engineers were supporting a local one.

The failure of the Plan Rhône can also be explained by the diverging beliefs held by the actors who were involved in the definition and implementation of the Plan. On the one hand, State engineers, endorsing an environmental-friendly conception of flood management, were critical of the existing RNC dykes system. On the other hand, RNC representatives, historically entitled to manage infrastructures for hydroelectric production, navigation, agriculture, were very much concerned with inhabitants security, as well as with the funding of their infrastructure maintenance. For their part, Regions – which were also members of the Plan Rhône – did not actively push towards the implementation of the project because they had more interests in the protection of their inhabitants than in environmental concerns. As we can see, the failure of the Plan Rhône’s implementation equally aroused from the inconsistent ideas and interests that were held by different coalitions of actors and stakeholders.

Finally, political power relations also contribute to explain the failure of the project. State representatives were willing to impose their flood management scheme but did not find the political resources to do so. Locally, there were opposed by municipal representatives supported by neighboring municipalities and associations of flood victims. They also lacked support from the beneficiary municipality. At the river scale, their flood scheme was not actively supported by regional powers and was actually opposed by the RNC. The promoters of the Plan Rhône mandated a lawyer to assess the legal capacity of the State to implement the scheme. However, the limited hydraulic advantages and high costs of the program and the lack of promoters’ political resources led to the failure of the project implementation.

In a nutshell, the case of the Plan Rhône demonstrates that the failure of an FRS can be explained by: i) the lack of actual “scale builders” to produce “local regulatory arrangements” (LRA) regarding

the implementation of the Plan Rhône program; ii) the inconsistencies that can exist between the ideas and interests of different coalitions of actors who are involved in the development and implementation of the Plan; iii) the political weakness of its promoters.

## 6. Conclusion

How can we explain IRR rescaling processes, and more particularly what are the socio-political factors, triggers and conditions of FRS emergence, success or failures? The discussion of the three hypotheses we developed in relation with the revealing case study of the Plan Rhône demonstrates that an institutional approach based on the sole idea of a “functional fit” (hypothesis 1) is not sufficient to explain the failure of the Plan’s implementation. Although it contributes to identifying the suitable and unsuitable institutional conditions for the creation and implementation of a new FRS, it cannot explain the positions and strategies of the actors regarding the implementation of a new institutional apparatus such as the Plan Rhône. The integration of explanatory factors drawn from the “politics of scale” approach (hypotheses 2 and 3) allows to better understand the motivations, dynamics and complexities of actors’ scaling and rescaling strategies. More particularly, it allows to better understand why the central State chose to decentralize the Rhône river management, while the municipalities and the river basin’s agencies asked for a recentralization of this management. It equally explains why the Regions did not seize the opportunity provided by the Plan to reinforce their position within the Rhône river management regime.

Two useful lessons can be learned from the Plan Rhône’s case in order to develop the IRR analytical framework in general as well as the FRS concept in particular.

First, the successful implementation of an FRS does not depend on its sole and hypothetical fit with the “functional” perimeter of the problem it is meant to address. The idea of a “functional fit” definition of an IRR or FRS is often a pipe dream. The reckoning of IRR or FRS boundaries depends on the actors’ conflictual (re)scaling strategies more than on these boundaries’ adequacy with the spatial perimeter of the problem.

Secondly, rescaling strategies (i.e. FRS implementation) are political processes, the successful legitimization of which mainly depends on:

- (1) the existence or the emergence of a specific group of actors – the “scale builders” (Howitt, 2003:150) – specialized in the production of alternative FRS settings<sup>13</sup> ;
- (2) the degree of convergence/divergence of the beliefs (and interests) held by the actors (coalitions) who are involved in the policy rescaling process;
- (3) the political power (i.e. resources) of the coalitions of actors who support the FRS within the policy rescaling process.

## References

- Balsiger, J., Nahrath, S., 2015. Functional regulatory spaces and policy diffusion in Europe: the case of mountains. *Environ. Sci. Policy* 49, 8–20. <https://doi.org/10.1016/j.envsci.2015.01.004>.
- Brenner, N., 2001. The limits to scale? Methodological reflections on scalar structuration. *Progress Hum. Geogr.* 25 (4), 591–614.
- Carter, C., Smith, Andy., 2008. Revitalizing public policy approaches to the EU: ‘territorial institutionalism’, fisheries and wine. *J. Eur. Public Policy* 15 (2), 263–281.
- Ekstrom, J.A., Young, O.R., 2009. Evaluating functional fit between a set of institutions and an ecosystem. *Ecol. Soc.* 14 (2).
- Faure, A., Leresche, J.-P., Muller, P., Nahrath, S. (Eds.), 2007. *Action publique et changements d’échelles : les nouvelles focales du politique*. L’Harmattan, Paris.

<sup>13</sup> It is interesting to note that this argument regarding the role of specific groups of actors specialized in institutionalization strategies echoes the literature on “political work” in which specific actors contribute to the institutionalization of industries through the construction of arguments and the activation of alliances (Jullien and Smith, 2011).

- Folke, C., Pritchard, J.L., Berkes, F., Colding, J., Svedin, U., 2007. The problem of fit between ecosystems and institutions: ten years later. *Ecol. Soc.* 12 (1).
- Gerber, J.-D., Knoepfel, P., Nahrath, S., Varone, F., 2009. Institutional Resource Regimes: towards sustainability through the combination of property-rights theory and policy analysis. *Ecol. Econ.* 68 (3), 798–809.
- Gregory, D., Johnston, R., Pratt, G., Watts, M., et al., 2011. *The Dictionary of Human Geography*. Blackwell Publishers, Oxford, UK.
- Guerrin, J., 2014. Une inondation négociée? Politisation d'un risque naturel sur le Rhône. PhD Thesis. University of Montpellier, pp. 1.
- Guerrin, J., Bouleau, G., Grelot, F., 2014. "Functional fit" versus "politics of scale" in the governance of floodplain retention capacity. *J. Hydrol.* 519, 2405–2414.
- Guerrin, J., 2015. A floodplain restoration project on the River Rhône (France): analyzing challenges to its implementation. *Reg. Environ. Change* 15, 55968. <https://doi.org/10.1007/s10113-014-0650-8>. n° 3 (18 juillet 2014).
- Hooghe, L., Marks, G., 2003. Unraveling the Central State, but how? Types of multi-level governance. *Am. Polit. Sci. Rev.* 97 (2), 233–243.
- Howitt, R., 1998. Scale as relation: musical metaphors of geographical scale. *Area* 30 (1), 49–58.
- Howitt, R., 2003. Scale. In: Agnew, J., Mitchell, K., Toal, G. (Eds.), *A Companion to Political Geography*. Blackwell, Oxford, pp. 138–157.
- Jullien, B., Smith, A., 2011. Conceptualizing the role of politics in the economy: industries and their institutionalizations. *Rev. Int. Political Econ.* 18 (3), 358–383.
- Knoepfel, P., Nahrath, S., Varone, F., 2007. Institutional regimes for natural resources: an innovative theoretical framework for sustainability. In: Knoepfel, P. (Ed.), *Environmental Policy Analyses. Learning from the Past for the Future - 25 Years of Research*. Springer, Berlin, pp. 455–506.
- Lebel, L., Garden, P., Imamura, M., 2005. The politics of scale, position, and place in the governance of water resources in the Mekong region. *Ecol. Soc.* 10 (2).
- Lefebvre, H., 1974. La production de l'espace. Paris: Anthropos. ((1990). *The production of space*. Blackwell, Oxford.
- MacKinnon, D., 2011. Reconstructing scale: towards a new scalar politics. *Prog. Hum. Geogr.* 35 (1), 21–36.
- Méjean, A., 1996. Utilisation politique d'une catastrophe : le voyage de Napoléon III en Provence durant la grande crue de 1856. *Rev. Hist.* 597, 133–152.
- Molle, F., 2007. Scales and power in river basin management: the Chao Phraya River in Thailand. *Geogr. J.* 173 (4), 358–373.
- Moore, A., 2008. Rethinking scale as a geographical category: from analysis to practice. *Prog. Hum. Geogr.* 32 (2), 203–225.
- Nahrath, S., 2003. La mise en place du régime institutionnel de l'aménagement du territoire en Suisse entre 1960 et 1990. Doctorat en administration publique, Thèse de doctorat, IDHEAP-University of Lausanne PhD Thesis.
- Nahrath, S., Varone, F., 2006. Politiques publiques, secteurs et territoires : quelles recompositions de (l'analyse de) l'action publique? In: Chappelet, J.-L. (Ed.), *Contributions à l'action publique - Beiträge zum öffentlichen Handeln*. PPUH/Haupt, Lausanne/Berne, pp. 229–253.
- Nahrath, S., Varone, F., 2007. Les espaces fonctionnels comme changements d'échelles de l'action publique. In: Faure, A., Leresche, J.-P., Muller, P., Nahrath, S. (Eds.), *Action publique et changements d'échelles : les nouvelles focales du politique*. L'Harmattan, Paris, pp. 235–249.
- Nahrath, S., Varone, F., Gerber, J.-D., 2009. Les espaces fonctionnels : nouveau référentiel de la gestion durable des ressources? *VertigO - la revue électronique en sciences de l'environnement* 9 (1).
- Neumann, R.P., 2009. Political ecology: theorizing scale. *Prog. Hum. Geogr.* 33 (3), 398–406.
- Neumann, R.P., 2015. Political ecology of scale. In: Bryant, R.L. (Ed.), *International Handbook of Political Ecology*. Edward Elgar, Cheltenham, pp. 475–486.
- Norman, E.S., Bakker, K., Cook, C., 2012. Introduction to the themed section: water governance and the politics of scale. *Water Altern.* 5 (1), 52–61.
- Ostrom, E., 1990. *Governing the Commons. The Evolution of Institutions for Collective Action*. Cambridge University Press, Cambridge.
- Ostrom, E., 2009. A general framework for analyzing sustainability of social-ecological systems. *Science* 325, 419–422.
- Picon, B.A.P., Claeys-Mekdade, C., Killian, S., 2006. Gestion du risque inondation et changement social dans le delta du Rhône. Les catastrophes de 1856 et 1993–1994. Cemagref/éd, Quae.
- Powell, W.W., DiMaggio, P.J. (Eds.), 1991. *The New Institutionalism in Organizational Analysis*. University of Chicago Press., Chicago.
- Rangan, H., Kull, C.A., 2009. What makes ecology 'political'? Rethinking 'scale' in political ecology. *Prog. Hum. Geogr.* 33 (1), 28–45.
- Smith, N., 1984. *Uneven Development: Nature, Capital and the Production of Space*. Blackwell, Oxford.
- Smith, N., 2000. Scale. In: Johnston, R.J., Gregory, D., Pratt, G., Watts, M. (Eds.), *The Dictionary of Human Geography*. Blackwell, Cambridge, MA, pp. 724–727.
- Swyngedouw, E., 1997. Neither local nor global: "glocalisation" and the politics of scale. In: Cox, K.R. (Ed.), *Spaces of Globalization: Reasserting the Power of the Local*. Guilford Press, New York, pp. 137–166.
- Swyngedouw, E., 2004. Scaled geographies: nature, place, and the politics of scale. *Scale and Geographic Inquiry: Nature, Society, and Method*. Blackwell, pp. 12953.
- Taylor, P., 1984. Introduction: geographical scale and political geography. *Political geography: recent advances and future directions* Vol. 17.
- Varone, F., Nahrath, S., Aubin, D., Gerber, J.-D., 2013. Functional regulatory spaces. *Policy Sci.* 46 (4), 311–333. <https://doi.org/10.1007/s11077-013-9174-1>.

Stéphane Nahrath is full professor of political science at the Swiss Graduate School of Public Administration at the University of Lausanne, Switzerland. His teaching, research and publications relate to the analysis of environmental and territorial policies, to urban politics and governance, as well as to the analysis of various kinds institutional.

Joana Guerrin is lecturer in political science at the University of Nîmes (France) and external collaborator at the Institute of Geography and Sustainability of the University of Lausanne, Switzerland. She realized her PhD on flood governance in France through the analysis of a conflict on the Rhône River. She opened her research to water-related risks governance more globally, tackling also water scarcity issues in Brazil and water pollution in French West Indies.