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Asserted Rights; Rule Activation Strategies in Water User Rivalries in Belgium and Switzerland

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ABSTRACT

Private arrangements are framed by a set of institutional rules, either public policies or property rights that actors activate in order to defend their positions. This is particularly visible in the field of the environment where human pressure is increasing scarcity and generating rivalries between competing users. How do rules intervene in the resolution of rivalries? I suggest that users activate rules to assert their rights against their rivals and find out a solution to the rivalry. Three hypotheses follow: the owner uses his property rights; the non-owner activates a public policy that acknowledges him as the final beneficiary; and the owner activates a public policy if he cannot exclude the rival from his property. The empirical test, carried out on four cases of local water rivalries in Belgium and Switzerland, validates these hypotheses and shows that public policies are more frequently activated than is initially expected.

Key words: *Public policies, property rights, water management, rule activation, rules-in-use*

Introduction[1]

Policy analysis usually makes the assumption that actors mobilise the State to defend or claim interests. Actors' strategies in the policy-making process have been widely studied with a particular emphasis on the elaboration and implementation phases of the policy cycle (Pralle 2003; Baumgartner, Green-Pedersen and Jones 2006; Bressers 2004). Alternatively, actors can protect their interests without requiring a direct State intervention in the resolution of conflicts and rivalries. Institutional economics has already demonstrated the importance of private exchanges in rivalries between economic actors, notably the execution of contracts (Williamson 1985: xii).[2] The same is true for cases of social negotiation where actors reach private arrangements in the 'shadow of the law' (Scharpf 1997). On which foundations do actors build arrangements that avoid the State aside? This paper suggests that private arrangements rely on the activation of existing

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rules. The argument is developed from empirical cases of resolutions of rivalries between water users. How do rules intervene in the resolution of rivalries between users? Users initiate the resolution in activating rules. This process transforms formal rules into rules-in-use that groups exploit in defence or claims. Among rules, I make a distinction between property rights and public policies for analytical purposes. Here, I concentrate on the process of rule activation without attempting to link it with the outcome. The users activate rules according to the status they confer on them. The theoretical part insists on the concept of rule activation that transforms formal rules into rules-in-use and proposes a set of working hypotheses that make the process more understandable. These hypotheses are tested on four empirical cases in already resolved rivalries that occurred in two river basins located respectively in Belgium and Switzerland. Users activate property rights or public policies that defend their use with a preference for property rights when available. Property rights tend to dominate the modes of resolution in water rivalries as they bring more protection to the user and are more easily activated.

Rule activation strategies: Theory and conditions

From formal rules to rules-in-use

Actors' behaviour is affected and framed by institutions, which are 'cognitive, normative, regulative structures and activities that provide stability and meaning to social behaviour' (Scott 1995: 33). They are usually understood to be a set of rules which structures the relationships between individuals by determining the range of possible reactions to certain situations (Kissling-Näf and Varone 2000: 6). 'They are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interactions' (North 1990: 3). Formal rules are the kinds of institutions that interest us most. Rules are shared and mutually understood prescriptions that refer to the actions that are required, prohibited, or permitted, and the sanctions that are authorized if the rules are not followed (Ostrom 1986: 5, 1999: 36; Ostrom, Gardner and Walker 1994: 38). 'Rules are the result of implicit or explicit efforts by a set of individuals to achieve order and predictability within defined situations by: (1) creating positions (e.g., member, convener, agent, etc.); (2) stating how participants enter or leave positions; (3) stating which actions participants in these positions are required, permitted, or forbidden to take; and (4) stating which outcome participants are required, permitted, or forbidden to affect' (Ostrom 1986: 5). In industrialised societies at least, formal rules are legal prescriptions that lean on

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a coercive apparatus and that command and condition social actors' behaviour (Reynaud 1993).

The difference must be stressed between rights and rules. 'Rights' are the product of 'rules' and thus not equivalent to rules. *Rights* refer to the prescriptions that create authorizations. A property right is that authority to undertake particular actions related to a specific domain (Commons 1968). Thus, rules specify both rights and duties (Ostrom 1999: 78; Schlager and Ostrom 1992: 250). Property is a rule and property rights are the rights that flow from the implementation of property rules. However, property and property rights are usually amalgamated in common language.

Formal rules do not automatically produce effects at grassroots level. In order to be effective, formal rules must be implemented through more operational regulations and norms that are applied to each individual by a public authority or voluntarily conformed to by the targeted actors. On the one hand, no public authority has enough external presence to ensure the day-to-day enforcement of all existing rules (Ostrom 1990: 93). On the other hand, formal rules can only become effective when actors accept them as legitimate and voluntarily accept to conform to them (Ostrom 1999: 106). Once made effective, formal rules become rules-in-use or working rules. 'Working rules are the rules used by participants in ongoing action arenas. They are the set of rules to which participants would refer if asked to explain and justify their actions to fellow participants' (Ostrom, Gardner and Walker 1994: 39). With time, rules-in-use become social habits. They have a shared meaning that remains stable over time among the group of participants. This paper aims at demonstrating that rule activation is an essential part of the transformation of formal rules into rules-in-use. It stresses the capacity of individual actors to self-organise in order to overcome some dilemmas (Ostrom 1990), even among the complex regulatory environment that characterises industrialised societies.

Rule activation is the invocation of a rule that defends one's rights over a thing or a resource. The user asserts his rights against a rival user. I consider activation to be the moment when the rule is brought to the rival's attention or when it is mentioned in a complaint lodged against the rival before a court of law or a public authority. The variable to explain is the rule activated with a focus on the explanation of the rights and the recognition that the rule confers to the actor in defence of his interests. Potentially, the users have a set of rules available.

Rule activation has mainly interested institutional economists who have focussed on private modes of the resolution of disputes between economic agents. They distinguish three modes of regulation: market transaction, firm integration, and State intervention (Coase 1960). In the

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interstices, studies of contractual relationships have shown that economic actors gain certainty in settling contracts. Nevertheless, contract enforcement needs permanent adaptation to unexpected situations. In most cases, the contracting parties do not go to court, but reach voluntary arrangements to adapt to these situations (Williamson 1985). The same reaction to riparian disputes is observed among private landowners who often rely on agreements which ignore the subtleties of the law (Ellickson 1991). Private arrangements dominate.

Equally, Ostrom has shown that private arrangements are not negligible in natural resource management (Ostrom 1990). Resource users do not systematically refer either to the market or to hierarchy to resolve their rivalries. They are able to self-organize and devise institutions to overcome collective dilemmas concerning the over-exploitation and maintenance of a common resource (e.g. a grazing area or an irrigation scheme). As such, it is plausible that rivalries between actors are solved without recourse to direct State intervention. However, Ostrom emphasised the crafting of new institutions or organisations in local settings, but not really the activation of already existing rules (e.g. land property) in these private arrangements. For instance, in industrialised countries nowadays, it would be hard to put aside the whole set of existing rules in a particular field. The claim by any of the parties to a right following from an existing rule would be expected.

The policy analysis literature has not paid sufficient attention to resource mobilisation. Actors in the policy process mobilise resources to assert their values and interests during steps of the policy process. These resources constitute either the actor's own means or particular elements of the relevant policy program. As such, action resources constitute a stock of raw materials which public and private actors draw on to mould their action (Knoepfel, Larrue, Varone and Hill 2007). In a sense, rules are one kind of action resources, e.g. time, money, human capital, organisation, political support or consensus (Crozier and Friedberg 1977; Dente 1995; Knoepfel *et al.* 2007). Despite broad interest in social mobilisation, in particular during the agenda-setting, elaboration and implementation stages of public policies (Baumgartner and Jones 1993; Pralle 2003; Bressers and O'Toole 1999; Lipsky 1980; Börzel 2000), the use and management of action resources in the policy process remain under-explored. As a result, rule activation never paid specific attention to policy analysis despite the great importance of granting both substantial (e.g. a ceiling of donations to political parties during a campaign or subsidies to representatives of civil society), and procedural means of action (e.g. the right of recourse of an environmental organisation against a building license).

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This paper looks at how rules intervene in the resolution of rivalries between users. The aim is to analyse the transformation of formal rules into rules-in-use, and their instrumentation in the defence or claim of an actor's use. In other words, I study the empowering effects of rules on actors who activate them.

Conceptualization of the rule activation process

In order to solve a rivalry, users activate rules that defend their use against the actions of the rival. I consider this process of activation a prior step in the resolution of rivalries. Rules can be of different kinds (Ostrom 1990; Reynaud 1993). When applied to natural resource management, two kinds of rules particularly stand out: public policies and property rights (Varone *et al.* 2002; Kissling-Näf and Kuks 2004). The assumption is that users choose to activate either one or the other kind of rules to defend their use. Who benefits from the rights (and duties) that follow from the activated rule? Users favour the one that brings them the best protection the property rights that recognise them as owners or appropriators, and public policies that recognise them as final beneficiaries. As such, users select the rule that is most beneficial to them, respectively the one that causes most serious harm to their rival.

'Property is a benefit (or income) stream, and a property right is a claim to a benefit stream that some higher body – usually the state – will agree to protect through the assignment of duty to others who may covet, or somehow interfere with, the benefit stream' (Bromley 1992: 2). Before being a right to own a thing, a property right is a socially guaranteed right to a benefit. In industrialised countries, this right is usually formal (i.e. the owner holds a title) and directly guaranteed by the State. An authority must ensure the legitimacy of property and defend the interests of the right holder against claims of duty-bearers (Bromley 1991: 15). In case of injury, the owner goes to court with the (quasi)-certainty to be granted satisfaction.[3] However, property not only involves the owner and the State. To be effective, it must be recognized as legitimate by the (excluded) third parties. 'Property is not an object but rather a social relation that defines the property holder with respect to something of value (the benefit stream) against all others. Property is a triadic relation involving benefit streams, right holders, and duty bearers (Hallowell 1943)' (Bromley 1991: 2). Property is a relationship between the owner, the excluded third party and the guarantor, i.e. the State.

The formal owner, the one who holds the property title, is in full possession and has absolute control over the thing owned. He can use it, sell it, even destroy it, or concede it to the appropriator who can make profit of it. Ultimately, the holder of a usage right has a simple right to

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use the thing on his own. These three categories of rights follow from property and are equally considered to be property rights. In the rule activation process, I consider that the owner uses his property at first (H_1). The property rights that he activates qualify him as an owner, and his rival as an excluded third party.

A public policy is a series of linked decisions or activities taken or carried out by different public actors with a view to resolving a problem that is politically defined as public. It gives rise to formalized actions or outputs aimed at modifying the behaviour of some target groups (e.g. polluting industries) in the interest of the final beneficiaries (e.g. consumers of drinking water). The *policy design* reconstructs the rationality (or causal logic) of State interventions (Varone 1998: 12; Schneider and Ingram 1988). It usually comprises five constitutive elements (Knoepfel *et al.* 2007). The *aims* describe the situation to be reached once the problem is solved, thanks to *instruments* directly applied to target groups (e.g. prescriptions, subsidies or information campaigns). The *target groups* are the social actors whose behaviour is presumed to be at the root of the public problem. State intervention is intended to transform or stabilise their behaviour in order to achieve the aims. Additional groups, the *final beneficiaries*, are at least indirectly concerned with the policy. They are social actors who suffer from the negative effects of the public problem, and who should benefit from a change in the target groups' behaviour (Knoepfel *et al.* 2007). As such, the policy constrains *target groups* to adapt their behaviour to the prescriptions, while *final beneficiaries* see their situation improved.[4] I hypothesize that a non-owner activates a public policy that recognizes him as a final beneficiary (H_2). Conversely, his rival is pointed out as a target group, i.e. a person whose behaviour is deemed responsible for the public problem that the policy programme is attempting to tackle.

Now the question of choice arises between the activation of property and public policies. Obviously, the non-owner will systematically activate a public policy, as he cannot claim any property right on the resource. If no public policy is available to him, he has very few chances to be heard and can be excluded. The point is different for an actor who is both recognized as an owner (property) and a final beneficiary (public policy). In that case, I point to the pre-eminence of property rights over public policies in the actor's choice for rule activation. Property is a bundle of exclusive rights on the thing owned. Accordingly, the first virtue of property rights is to exclude non-owners and rival appropriators from the use of goods and services derived from the natural resource. 'Private property is the legally and socially sanctioned ability to exclude others – it allows the fortunate owner to force others to go elsewhere' (Bromley 1991: 25). Exclusion was often neglected by institutional

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economists interested in property rights who focused more on the exchanges and transactions between owners, but it certainly constitutes the main consequence of property. By definition, property organises exclusion, but also the externalisation of the negative side-effects of production, in order to guarantee the owner's profit over time (the 'benefit stream' or 'low discount rate' in Ostrom's terms). Exclusion is a powerful right that no public policy grants and that often avoids any form of discussion with the rival. As such, I hypothesize that the owner activates a public policy (that recognizes him as the final beneficiary) if he cannot exclude the rival from his property (H_3). An owner will always privilege property in rule activation, unless it cannot ensure the exclusion of the rival.

A distinction between property and public policy is analytically useful, although it is sometimes hard to draw a firm line between the two. First, the dialogue about the interaction between public policy and property is quite rare. (For an exception, see Varone *et al.* 2002.) While policy analysts tend to leave property out, institutional economists consider any public regulation to be a change in property that extends or alters the bundle of rights associated with the titles (North 1990; Libecap 1989; Cole 2002). As soon as he holds some use rights, every actor is an owner who wants to extend and secure these rights through public regulation, and hence the distinction seems irrelevant. For instance, Elinor Ostrom (1990) considers exclusion the first condition of success for the management of a commons and does not pay any attention to the excluded third parties (see Nahrath 2000). And yet, they exist. An actor can refer to a public policy to invoke use rights, without holding a property title.

Although both public policies and property confer use rights, there are differences concerning access, control, and contestability. Property grants an exclusive access to the owner over the thing owned. The owner sets himself the conditions of access and exclusion. On the other hand, a public policy is not about distributing access or overcoming exclusion, but rather changing the behaviour of target groups in order to legitimately solve a social problem. For example, the Endangered Species Act in the U.S. encourages habitat protection on private lands through prescriptions, incentives and negotiations that aim at changing some behaviour harmful to nature (Raymond and Olive, forthcoming), and not the property right structure itself. Property also grants autonomous rights and duties. This principle of autonomy is of general application and State restrictions through public policies are exceptions to the general rule.[5] Both institutions collide as public regulations tend to decrease the extent of property rights.[6] Finally, the eligibility of a beneficiary of a public policy is always contestable in court, while the property title guarantees the ownership.

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To sum up, the model of rule activation establishes a relationship between the activation of rules and the resolution of rivalries (see Figure 1). This model shows how rules intervene in resource rivalries. If validated, it would show that rule activation is the process that transforms formal rules into rules-in-use and, on the other hand, how users choose, among the set of rules available, the ones they activate in the rivalry. Users favour the rules that bring the best protection and the ones that cause the most serious harm to their rival. Property should take precedence over public policies, as it allows the exclusion of third parties.

In order to proceed to an empirical verification of the model, I have looked at how water users resolve their rivalries. A rivalry is a situation in which two users face incompatibility between their respective uses, and at least one user does not have enough to satisfy his needs. It is a confrontation over the reallocation of a resource between different users (Sproule-Jones 1982). I suggest that rivals activate rules to get a resolution and to guarantee the continuity of their use. The empirical test is qualitative and comparative. It analyses how heterogeneous water users have resolved rivalries at the local level. The test of the hypotheses is done according to the comparative method, with a case selection following the most different system design (Przeworski and Teune 1970).

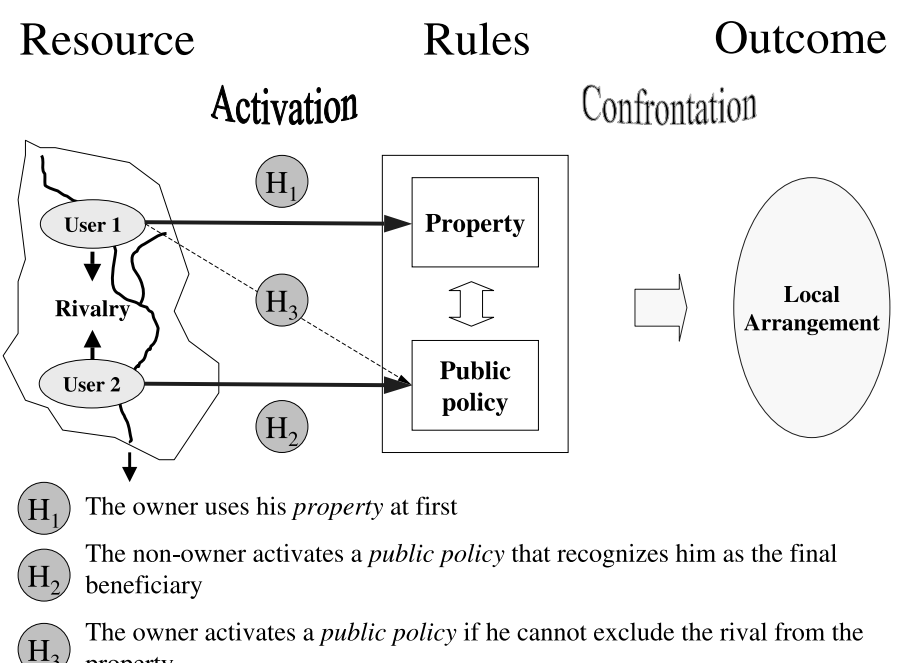

FIGURE 1. *Conceptual framework of rule activation in rivalries*

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For practical reasons, I selected four resolved rivalries located in two different watersheds, the Vesdre in Belgium ($C_{1\ Verviers}$ and $C_{2\ Spa}$) and the Val de Bagnes in Switzerland ($C_{3\ Mauvoisin}$ and $C_{4\ Champsec}$). The choice of two countries amplifies the difference between the institutional resource regimes that frame the users' behaviour.[7] The cases focus on the user's selection of rules for activation. They are built on previous screenings of the institutional water regime governing resource management at the national level (Varone *et al.* 2002; Kissling-Näf and Kuks 2004). For each rule activated, they describe the status conferred to the users (owner *versus* excluded third party for property and target group *versus* the final beneficiary for public policies) and its content and application. Data collection on the specific rivalries was carried out between 2001 and 2003, with a common analytic grid, initially based on primary and secondary documents and completed with semi-structured interviews with the key actors involved in the respective water rivalries.

Rule activation in water rivalries in the Vesdre basin

The Vesdre watershed, with a surface area of 710 km^2, is located near Liege in the eastern part of Belgium. The relief inside the watershed is mountainous and the water flow is influenced by rainfall, 10.5 m^3/s on average, with peaks at 165 m^3/s. Nearly half the territory is covered by forests; housing and industry are concentrated along the river. In federalist Belgium, water management is the responsibility of the Regions, but property rights are still defined at the federal level by the Civil Code. Surface water is under the public domain but parts of it can be privately appropriated, e.g. when it is withdrawn. Water ownership is tied to land ownership in most settings, e.g. ground water or springs. In terms of public policy, many regulations have been adopted regarding surface water quality (e.g. discharge permits and taxes), the protection of aquifers (e.g. withdrawal licenses) or recreational activities.

Lead-poisoning in Verviers ($C_{1\ Verviers}$)

In Verviers, a rivalry between the distribution of drinking water and industrial water gave rise to a conflict in the mid-1980s. Citizens sued the municipality, as the water supplier because of an excessive concentration of lead in the tap water. Raw water comes from the dam of the Gileppe and is not treated. Moreover, this water is naturally acidic ($pH = 4.6$), which attacks the lead water pipes. The same water source supplies industrial concerns that find the cleansing properties of the acid water beneficial to their processes such as washing pipes or wool. They did not

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want to lose this quality of the water. As a consequence, water consumption in Verviers has led to lead poisoning for over a century.

The conflict between the municipality and an association of local citizens, the *Groupe Eau*, came to a head at the beginning of the 1980s. At this time, the drinking water quality standards were defined in the Royal Decrees of 1965 and 1966. The first stated that water must be drinkable and the second set gave related parameters, in particular a pH above 6.5 and a concentration in lead below 0.05 mg/l.[8] The same standard figured in the 1980 European Directive on the quality of drinking water that had to be transposed into Belgian law.[9] Water supply was a municipal responsibility. The City of Verviers owned the network, which was supplied with surface water from the Gileppe dam reservoir. An exclusive appropriation right was granted by the Belgian State with the condition to supply the local industry.[10]

The *Groupe Eau* initially attempted to raise the awareness of the population and the local authorities, organizing protest meetings and petitions. Their aim was compliance to the drinking water standards everywhere in the city. Lacking any reaction, they decided to sue the municipality in 1984, basing their action on the Royal Decrees of 1965 and 1966. In reaction, the town authorities activated their appropriation right on the dam's waters, claiming that this implied a priority supply of the local industry and that, as far as the population was concerned, this water fell out of the scope of the decrees and was thus not fit for human consumption. The goal was to maintain the status quo for as long as possible in order to avoid the financing of a drinking water treatment plant and a water price increase for the industrialists. The latter remained discrete, once assured of the position of the city council. After being dismissed in a civil court, the *Groupe Eau* finally won the case on appeal in 1987. The association simultaneously referred the matter to the European Commission, which resulted in a condemnation by the EU Court of Justice in 1990 for the failure of Belgium to implement the Directive of 1980.

As a result, the Walloon Region compensated the inaction of the municipality and pushed the negotiations ahead at the Federal level with the construction of a drinking water treatment plant. Regarding the complaint of the industrialists, a technical arrangement safeguarded their supply of raw acid water. Ultimately, the public health concern was taken into account without requiring any redistribution to the detriment of industrial use.

Protection of aquifers in Spa ($C_{2\ Spa}$)

The region of Spa benefits from a unique landscape. The *Fagnes* are high plateaus that form a collection of peat bog marshes supplied by abundant

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rainfall that percolates and feeds 300 springs of Spa water, of which 59 are exploited as mineral water by a private company, *Spa Monopole*, the Benelux leader in mineral water. *Spa Monopole* exploits the springs, belonging to the City of Spa, under a concession contract. Above the aquifers, land is used for forestry by the *Division Nature et Forêt* (DNF), a department of the Walloon regional administration. The pine trees' exploitation causes acidity in the soil; there are risks of oil pollution due to the harvesting equipment as well as threats to the physical chemical characteristics of Spa water. The rivalry is about the co-existence of these competing activities.

The land belongs to the Belgian State (i.e. the Walloon Region since 1980 due to the federalist process), but the City of Spa has retained the formal ownership of the springs. As such, in derogation to the Belgian Civil Code, water ownership is unbundled from land ownership. On the one hand, *Spa Monopole* holds a 65-year concession contract signed in 1974 with the City of Spa that grants it an exclusive appropriation right on Spa springs and aquifers. The concession allows it to exclude any competitor from water withdrawal, but not the land users located above the aquifers. On the other hand, DNF has the duty to manage all public forests. As such, it holds an exclusive appropriation right on lands located above the Spa aquifers. Recently, the legal environment evolved in favour of more water protection. The Regional Act about groundwater protection was adopted in 1990 and increases measures against pollution by limiting surface activities around the wells.[11] Forestry development also evolved towards a more ecological and multiple-use approach, including groundwater protection.[12] As such, DNF could hardly ignore the demands of *Spa Monopole*.

In this context, *Spa Monopole* requested a revision of the 1978 *modus vivendi* with DNF in order to put it in conformity with the new legal environment. Even though being the appropriator, *Spa Monopole* activated the Regional Act of 1990 and demanded the application of the use restrictions mentioned inside the protection perimeter. The aim of *Spa Monopole* has been to set bounds to forestry and to guarantee the permanence of Spa water quality. DNF reacted positively to the request. Nevertheless, its aim was to keep the forest dense enough to maintain forestry and landscape. It defended its position as forestry manager based on the activation of its appropriation right on land and in respect of the Ministerial Circular of 1997. Negotiation was conducted at the local level between the DNF's Spa office and representatives of *Spa Monopole*, with frequent shuttles to the Walloon General Directorate for the Environment as well as to the headquarters of Spadel, the parent company of Spa Monopole, which deliberated on the disputed issues.

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After a six-month period, the new *modus vivendi* was signed on 11 May 2001. The DNF committed itself to reducing the density of plantations around the wells, increasing the proportion of broad-leaved trees (less acidic), and reducing the risks of pollution due to harvesting. As a counter gesture, *Spa Monopole* agreed to finance some equipment on the *Fagnes*, in particular the connection of a farm to drinking water. As such, aquifers' protection has become the leading task of forestry management in the area of Spa.

Rule activation in water rivalries in the Val de Bagnes

The Val de Bagnes, with a surface area of 300 km^2 is located in the canton of Valais in Switzerland. The Dranse, its main river, is 30 km long and flows among large glaciers of the Alps. Its flow, 2.32 m^3/s on average, was reduced to one quarter of its previous level with the construction of the Mauvoisin dam with a capacity of 210 mio m^3. The flow is much influenced by hydro-power activities which consume three-fourths of the natural water input and discharge the flow directly into the Rhône River outside the valley. Here the rivalry concerns the establishment of minimal flows. In the Swiss federal system, responsibilities for water management are shared between the Confederation and the cantons. Public policies regulate most water uses, including dam management and ecological protection. In terms of water rights, the municipalities own the rivers and can concede the water to appropriators.

Heightening the Mauvoisin Dam ($C_{3\ Mauvoisin}$)

When the *Forces motrices de Mauvoisin* (FMM) decided to heighten the dam in 1986, an environmental group, the World Wide Fund for Nature (WWF), opposed the project and claimed the implementation of minimal flows. WWF had long promoted minimal flows in Switzerland and wanted to create a precedent. The case of the Dranse was particularly striking because the river no longer flows immediately downstream from the dam. This absence of input from the Dranse has consequences for the eco-systems all along the valley.

The question of minimum flows was not an issue when the Mauvoisin dam was initiated in 1945. The concession from the municipality of Bagnes, the formal owner of Dranse waters, has allowed FMM to restrict all of the water for hydro-electric production for 80 years and has foreseen absolutely no minimum flows. With the heightening project, FMM did not need to re-negotiate the concession, but had to get a permit from the Canton as with any construction work, a decision submitted to

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an impact inquiry.[13] On the environmental side, the Constitution has required qualitative and quantitative water protection since 1975, but no transposition was made into public law.[14] The Environment Protection Law of 1983 only has a general objective of environmental protection and requests an environmental impact assessment for building works (art. 9). As such, minimum flows are not *per se* stipulated by law.

During the impact inquiry, WWF announced its opposition to the project. It argued that, as for any new dam construction, this project required a minimum flow of water back to the river. The Cantonal Government (*Conseil d'État*) went ahead and delivered the building permit. In reaction, WWF activated the Federal Nature Protection Law of 1966, which grants legal recourse to environmental associations (art. 12) in order to request the cancellation of decisions. It contested mainly the absence of a true environmental impact assessment. This action suspended the decision. For FMM, WWF had no legitimacy to act in this case and considered that such minimal flows would violate the *droits acquis* of the concession contract.

Bilateral negotiations were set up between WWF and FMM. FMM was thus put under pressure to consider the position of WWF, as the environmental association lodged a further recourse to the Federal Court. FMM wanted to move forward quickly with its project and preferred to negotiate rather than lose time and money in a trial. The negotiations ended with a convention signed on 5 October 1988. FMM agreed to convert a 3-hectare plot of land into a hydro-biological site and to leave a minimum flow of 50 l/s downstream the Mauvoisin dam.

Renewal of the concession in Champsec ($C_{4\ Champsec}$)

Champsec was the first concession renewal in the Valais canton. Champsec is a mid-size hydro-power plant built in the 1930s and equipped with a pressure pipeline, but no dam. The Municipality of Bagnes toughly negotiated the return of the concession and made a new concession to FMM in April 1987, with an entry into force on 5 August 1988. The rivalry was the volume of minimal flows given to the Dranse upstream.

The question of minimal flows in Switzerland has been pending since 1975 when the Constitution was amended (art. 24bis). The law transposing the disposition of the qualitative and quantitative protection of water was under discussion at the time of the rivalry. WWF wanted an extensive application of the dispositions and considered the thresholds determined in the future water law, finally adopted on 24 January 1991 to be a minimum. It was committed to the extension by systematic opposition to the hold of the hydro-power industry over the Alpine

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valleys. Conversely, the respect of *droits acquis* was guaranteed by property as defined in the Swiss Civil Code, and translated into the concession contracts. The hydro-power sector could contest any loss of property in court. To FMM, the issue at stake was not the alleviation of the production capacity of Champsec, but rather securing and unifying its water rights in the Val de Bagnes, while limiting the concessions made to WWF about minimal flows. The Cantonal Law on hydraulic power of 1957 (LcFH) organised the procedure of concession renewal.

Bagnes gave the responsibility to FMM to get the confirmation of the concession and remove any opposition. The Canton's Department of Energy received the confirmation request from FMM on 14 March 1988 and opened the public enquiry according to the LcFH. WWF judged the minimal flows set as insufficient and ridiculous (i.e. 200 l/s in summer and 50 l/s the rest of the year). Given the opposition of WWF, the *Conseil d'État* adopted a decision that authorised the exploitation of Champsec at unchanged conditions. In response, WWF activated its right of recourse against the decision on the basis of the Environment Protection Law of 1983 (art. 55) and maintained its opposition (art. 18 al. 1 LcFH). In substance, it contested the absence of an environmental impact assessment, and the rationality of the exploitation of Champsec (art. 4.2 LcFH). FMM opted for negotiation with WWF. WWF asked for a stricter application of the Law of 1983, while the law about water protection was still under discussion. This bill included a threshold of minimal flows that represented a minimum for WWF and a limit for FMM in the negotiation. WWF could await the enactment of the new law to force FMM to move on.

WWF finally proposed a compromise: a flow of 10 mio m^3/y equivalent to the threshold, but with seasonal variations. After a feasibility study, FMM accepted the deal and settled it in a convention on 16 and 21 January 1991. They committed themselves to guarantee a minimal flow of 10 mio m^3/y with a monthly variation and to abstain from any additional withdrawals in torrents.

The relative empowerment capacities of rules

Comparison of the cases

According to my hypotheses, users favour the rules that offer the best protection to their aims whether public policies or property. An owner uses property first (H_1); a non-owner activates a public policy that acknowledges it as the final beneficiary (H_2); and the owner activates a public policy if he cannot exclude the rival from his property (H_3). The empirical test reveals that the three hypotheses are validated in all cases.

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Given the initial decision to concentrate on rivalries involving property, the situation corresponding to hypothesis H_1 is the most frequent and occurs four times out of eight, H_2 occurs three times and H_3 is present only once.

When they hold property, users activate it rather than a public policy. In the four cases that validate hypothesis H_1, users actually hold property titles that grant them exclusive appropriation rights on the resource. The activated property rights are mainly water rights conceded by a public authority which holds the formal property. DNF constitutes an exception as it activates appropriation rights on land.

The successful test of hypothesis H_2 implies that a user who is a non-owner activates a public policy that designates him as the final beneficiary and his rival as the target group. In $C_{1\ \mathrm{Verviers}}$, the *Groupe Eau* made an appeal against the City of Verviers and won on the basis of the Royal Decree of 1965, which asserts the right to drinking water. The rule activation took the form of a claim to the civil court. In $C_{3\ \mathrm{Mauvoisin}}$ and $C_{4\ \mathrm{Champsec}}$, WWF activated the Nature Protection Law of 1966, which grants it a right of recourse against the Cantonal decision, and in the second case combined the Environment Protection Law of 1983 and its right of recourse with the Water Protection Bill (draft law), which will introduce requirements in terms of minimal flows as of 1991. Here activations are first in the form of written claims in a procedure of public inquiry, and subsequently recourses to the Cantonal administrative court.

Usually property rights deal with a specific use rather than the resource itself, e.g. the right to withdraw potential drinking or industrial water, the right to dam up the river for hydropower production purposes, or the right to withdraw mineral water. Even though these rights concern a specific use of the resource, they do not preclude owners from excluding third parties from access to the resource. For instance, in $C_{3\ \mathrm{Mauvoisin}}$, FMM contests the claim of WWF about minimal flows in the Dranse as its concession grants it the whole river flow. FMM considers that this claim interferes with its rights to exploit the river's waters, a position supported by the Cantonal Department of Energy. The rights are equivalent in their scope, but deal with very different uses.

All the cases are multiple-use situations, which means that the resource is controlled by a single formal owner (Young 1992: 103). The idea that the formal owner could, in such a situation, arbitrate between the two rivals for the common good or the preservation of his own capital proves to be wrong. Moreover, in these cases, formal owners are public authorities. It is striking to observe that they deliberately remain passive between rivals. Once conceded, appropriation rights are powerful tools in the control of a resource and the formal owner has not much control any more.

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In $C_{3\ Spa}$, an owner activates a public policy to defend his use. The protection of aquifers brings *Spa Monopole* and DNF into rivalry, two owners of the same parcels but of different things. *Spa Monopole* holds an exclusive appropriation right on the Spa springs and aquifers, belonging to the City of Spa, whereas DNF also holds an exclusive appropriation right but on the lands covered by communal and public forests owned by the City of Spa and the Walloon Region. The unbundling between water property and land property is quite uncommon in Belgium. The problem is that each player's use indirectly interferes with the other's use and that some arrangement is necessary to reconcile both uses. DNF indirectly uses Spa groundwater as the pine trees harvested increase the acidity of the ground as well as risks of pollution. From its perspective, *Spa Monopole* seeks protection against those risks. As it cannot exclude DNF with its property, it activates a public policy deemed to ensure effective protection of the aquifers and to constrain DNF to change its forestry management. Hypothesis H_3 is validated in this single case. An owner who is not in a position to exclude his rival from property, chooses to activate a public policy that recognizes the owner as the final beneficiary in order to obtain a change in behaviour from his rival. In addition, the fact that *Spa Monopole* holds appropriation rights on the springs reinforces its capacities to activate the water wells protection policy.

The hypotheses about rule activation are validated in all cases. In a rivalry, a user holding a property right first activates this right, except if it does not permit excluding the rival. Then, the owner refers to a public policy that recognizes it as the final beneficiary. But $C_{2\ Spa}$ shows that the activation can be combined, rather than limited to an alternation between rules. The user holding property and benefiting from a public policy can activate both. Property facilitates the recognition as the final beneficiary of the public policy. *Spa Monopole* had no difficulty in convincing DNF that it benefits from the Regional Law of 1990 about groundwater protection as it is the appropriator of the springs and aquifers. The combined activation puts the user in a favourable position against its rival. In addition, the public policy tends to classify the different property rights on the resource, especially between equal rights that make arbitration difficult. With the Law of 1990, the appropriation rights on aquifers take precedence over the appropriation rights on land for forestry. The owner benefiting from a public policy is in the most favourable position in the rivalry.

Learning and prospects

Rules do not have the same capacity of empowerment. The activation of a public policy requires a prior recognition of the final beneficiary by a

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public authority and the user must be first considered as a final beneficiary. Either this recognition is validated by a public authority in the policy implementation phase (e.g. the delivery of a permit or a subsidy), or after a complaint and a court's decision that confirms the merit of the claim. For instance, the *Groupe Eau* and WWF had to go to court to be recognized as final beneficiaries of existing policies, even if the legal procedure is not completed. An activation of property is much easier. The owner only refers to his property title, in a declaration or communication to a rival. It simply asks for a public recognition, judicial or administrative, of the title when the final beneficiary of a policy has brought it to court. Property is respected and guaranteed by the State. Informing the rival is usually enough to confirm one's status of owner, while recognition as beneficiary of a policy requires additional steps.

The mobilisation of action resources is necessary for rule activation; resources include money, time, staff, expertise, political influence and consensus. All the users scrutinized hold many action resources, except the *Groupe Eau* that had to acquire them ($C_{1\ Verviers}$). Financial and legal resources facilitate the activation of public policies. Resources can also be specially obtained. For instance, *Spa Monopole* hired the expertise of lecturers in hydrogeology ($C_{2\ Spa}$) and WWF built relations of confidence with FMM ($C_{4\ Champsec}$).

Time is a distinctive action resource, such as speeding up or slowing down decision-making. For instance, the City of Verviers, which refused to finance a drinking water treatment plant, opted for immobility and exhausted all the recourses in the trials brought against it. The nature of the rule activated can also modify in the course of time. The Cantonal Law on hydraulic power of 1957, which required the withdrawal of every protest before agreeing the heightening of the Mauvoisin dam, speeded up the resolution of the rivalry ($C_{3\ Mauvoisin}$), while the decision of the Department of Energy to maintain the exploitation of Champsec at unchanged conditions slowed down the negotiation between FMM and WWF about the allocation of minimal flows ($C_{4\ Champsec}$).

All the users are organised groups, i.e. associations, public authorities or companies, that could combine resources strategically. Even the Verviers' citizens of the *Groupe Eau* case created an association to attempt to get a resolution of the problems. It seems difficult for an individual actor to intervene in water resource rivalries, even as a landowner. Rule activation needs the capacity to mobilise action resources.

Rules essential to empowerment not only concern property. In three out of four cases where a public policy is activated, the users had no property. It is a law that bestows on them a usage right. Nonetheless, a

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non-owner uses rules, either material or procedural, to defend his use instead of forms of illegal appropriation or threats or violence. Procedural rules, unlike substantial rules, they do not confer rights or duties, but organise their assignment. In the Swiss cases, WWF built its strategy on procedural rules that permitted them to contest the Canton's decision in the public inquiry and later had a legal recourse to the administrative court. Without procedural rules, WWF would have been unable to assert claim to minimal flows. Procedures forced the application of substantial rules and compelled FMM to negotiate.

Property dominates the modes of resolution in resource rivalries as it brings more protection due to exclusion rights. However, public policies are activated quite often by owners as well as non-owners. In addition, they bring hierarchy between properties initially deemed to be equivalent. When an owner activates a public policy, its status as the final beneficiary bestows an ascendant position on a rival whose behaviour is judged negatively by the public policy. As such, public policies have an important redistributive role to play in sectors where property is predominant empowering the weak in their claims to defend.

Conclusion

Rules are activated in the resolution of resource rivalries. Users activate property or public policies in their own defence and select the ones that bring the best protection to their use cause the most serious harm to their rival, with a preference for property. The local arrangements concluded are thus close to the private arrangements described by institutional economists who studied contractual relationships (e.g. see Williamson 1985). Direct State intervention is not essential. However, actors do not craft new institutions to overcome common dilemmas, as common-pool resource theories suggest (Ostrom 1990). Local arrangements, I argue, rely on activating existing rules.

Even if the case studies show that users negotiate private arrangements, the reason is not their ignorance of the terms of the law, but the reluctance to enter into lengthy and uncertain litigations or to ruin cooperation. Existing laws are mobilised to set a frame for the negotiation or litigation. The case studies also highlight the behaviour of non-owners and their mechanisms of defence against owners which rely mostly on regulations and laws. The analytic distinction between property and public policy describe how non-owners avoid being left out from analysis. Ex-ante evaluation of policy proposals should include an analysis of the broader institutional context, that is, the property rights and public policies already regulating the sector. New policies must be coherent with

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the former rules, and their redistributive effects must be anticipated to avoid defective measures (Schneider and Ingram 1997).

Strategic behaviour can be described through a process analysis to show how actors use rules, which rules they activate and which outcomes they achieve. Research on rule activation, is relevant to understanding the effects of multi-level governance in a variety of sectors besides management, for example, utilities, transport or biotechnology. It shows what rules are actually used by participants in political arenas, and which mobilisations, at which governance level, are the key to influence in complex institutional environments. It would also reveal much about how power and benefits are distributed in society.

NOTES

1. This article has benefited from the comments of three anonymous reviewers. I would like to thank them for their perceptive criticism and their suggestions about further research which were included in the conclusion.
2. 'In contrast [with the 'mechanism design' literature], transaction costs economics maintains that the governance of contractual relations is primarily effected through the institution of private ordering rather than through legal centralism' (Williamson 1985: xii).
3. 'When one has a *right* one has the expectation both in the law and in practice that one's claims will be respected by those with *duty*. And it is the essential function of the state to stand ready to refrain those with duty; if the state is unwilling, or unable, to ensure that compliance to duty, then rights are meaningless' (Bromley 1991: 22).
4. A public policy can benefit a target group, if the target group is at the same time a final beneficiary (e.g. a mineral water producer who must protect its wells and receives subsidies to adapt to the new prescriptions).
5. This principle of control clearly appears in the French and Belgian Civil Codes: 'Property is the right to enjoy and dispose of things in the most absolute manner, provided they are not used in a way prohibited by statutes and regulations' (art. 514). The sentence is similar in the Swiss Civil Code.
6. Expropriation (or taking) is a breaking point as it is produced by public decision. Nevertheless, it does not change the behaviour of target groups as public policy does, but rather modifies the ownership structure, i.e. the owner is replaced. Thus, I don't classify expropriation as a public policy, but as a change in property. In addition, any severe loss in private property for a public interest has to be compensated at market value.
7. An institutional resource regime is defined as: 'an institutional framework which combines the prominent programme elements of a resource specific protection and/or exploitation policy (= policy design) with a specific arrangement of the formal ownership, disposition and use rights for the goods and services provided by a natural resource (= water rights system)' (Varone *et al.* 2002: 83).
8. Royal Decree of 24 April 1965 on drinking water (*Moniteur belge* (*M.B.*), 16 June), in application of the Law of 20 June 1964 on the control of foodstuffs, completed by the Royal Decree of 6 May 1966 (*M.B.*, 13 July).
9. Council Directive 80/778/EEC of 15 July 1980 relating to the quality of water intended for human consumption. Case law C-42/89 of 5 July 1990.
10. Royal Decree of 1 February 1866 (*M.B.*, 20 February).
11. Walloon Regional Act of 30 April 1990 on the protection and exploitation of groundwater and water intended for human consumption (*M.B.*, 30 June).
12. Ministerial Circular no. 2619 of 22 September 1997 about forestry development on the public domain.
13. The raising of the reservoir's capacity was decided upon in order to retain water longer and produce an additional 100 mio kWh in peak periods in winter.
14. Article 24bis of the Swiss Constitution.

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