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Conditions of Emergence and Change of Resource-Specific Insitutions

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Comparative analysis of the formation and the outcomes of the institutional resource regimes in Switzerland

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Vergleichende Analyse der Genese und Auswirkungen institutioneller Ressourcenregime in der Schweiz

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Analyse comparée de la genèse et des effets des régimes institutionnels de ressources naturelles en Suisse

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Analyse comparée de la formation et des effets des régimes institutionnels de ressources naturelles en Suisse

Partant du constat de l'accroissement significatif et généralisé de la consommation des ressources naturelles, le projet a pour ambition d'examiner, dans le cas de la Suisse, quels sont les types de régimes institutionnels -régimes composés de l'ensemble des droits de propriété de disposition et d'usages s'appliquant aux différentes ressources naturelles, de même que des politiques publiques d'exploitation et de protection les régulant- susceptibles de prévenir des processus de surexploitation et de dégradation de ces ressources.
Dans le cadre de ce projet de recherche financé par le Fonds national suisse de la recherche scientifique (FNRS), il s'agit, dans un premier temps, d'analyser les trajectoires historiques d'adaptation et de changements des régimes institutionnels des différentes ressources sur une durée d'environ un siècle (1900-2000). C'est l'objet des différents screenings.
Dans un second temps et à l'aide d'études de cas, ces transformations de (ou au sein des) régimes institutionnels sont analysées sous l'angle de leurs effets sur l'état de la ressource.
L'ambition finale de cette recherche est de comprendre les conditions d'émergence de "régimes intégrés" capables de prendre en compte un nombre croissant de groupes d'usagers agissant à différents niveaux (géographiques et institutionnels) et ayant des usages de plus en plus hétérogènes et concurrents de ces différentes ressources.
Le champ empirique de la recherche porte plus particulièrement sur cinq ressources que sont: l'eau, l'air, le sol, le paysage et la forêt.

Vergleichende Analyse der Genese und Auswirkungen institutioneller Ressourcenregime in der Schweiz

Ausgehend von der Feststellung, dass die Konsumraten natürlicher Ressourcen weltweit stetig steigen, untersucht das Projekt, ob und welche institutionellen Regime in der Schweiz einer Übernutzung und Degradation von solchen Ressourcen entgegenwirken. Solche Regime bestehen aus der eigentumsrechtlichen Grundordnung (Eigentumstitel, Verfügungs- und Nutzungsrechte) und der Gesamtheit der ressourcenspezifischen öffentlichen Nutzungs- und Schutzpolitiken.
In einem ersten Schritt zeichnen wir nach, wie sich die institutionellen Regime verschiedener Ressourcen über eine Dauer von ungefähr hundert Jahren (1900-2000) angepasst und entwickelt haben. Diese überblicksartigen historischen Analysen bilden den Inhalt der verschiedenen Screenings.
In einem zweiten Schritt werden mittels Fallstudien die Wirkungen von Veränderungen eines institutionellen Regimes auf den Zustand der Ressource evaluiert.
Mit dem Projekt soll das Verständnis dafür erhöht werden, unter welchen Bedingungen „integrierte Regime“ entstehen können: Wie kann es zu institutionellen Regimen kommen, welche die zunehmend heterogenen und konkurrenzierenden Nutzungen einer steigenden Anzahl von Nutzergruppen aus verschiedenen geographischen und institutionellen Ebenen berücksichtigen?
Als empirische Beispiele stehen in diesem vom Schweizerischen Nationalfonds zur Förderung der wissenschaftlichen Forschung (SNF) finanzierten Projekt die fünf natürlichen Ressourcen Wasser, Luft, Boden, Landschaft und Wald im Zentrum.

Comparative analysis of the formation and outcomes of resource regimes in Switzerland

In the context of a significant and widespread increase in the consumption of natural resources, the aim of this project is to determine, in the case of Switzerland, which type of institutional regime (the property and uses rights pertaining to the different natural resources as well as the public policies regulating their exploitation and protection) would most effectively prevent the overexploitation and degradation of these resources.

In the first stage of this project, financed by the Swiss National Science Foundation, we will analyse how previous institutional regimes evolved over a period of one hundred years (1900-2000). Several screenings will be devoted to this issue.

The next stage of our research will be devoted to the analysis, based on several case studies, of these modifications from the point of view of their impact on the state of a given natural resource.

The final aim of this research project is to understand the conditions necessary for the elaboration of an "integrated regime" which would take into account the growing number of users at various levels (both geographical and institutional), as well as the increasingly varied and competing forms of consumption of these resources.

This study will focus on five main resources: water, air, soil, landscape and forests.

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Conditions of Emergence and Change of Resource-Specific Institutions. Experiences with Forest Regimes in Europe

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UER: Politiques publiques et environnement

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Abstract

Our article interprets current changes in national forest regimes in Europe through the lenses of the concept of institutional resource regimes (IRM). Different important regime changes in Europe are illustrated and the usefulness and completeness of the concept are tested. Important changes are: The establishment of private property and a market economy in Eastern Europe (1); the (compensated) retrenchment of the rights of use of forest owners for nature protection (2) or recreational forests (3); and the introduction of market oriented administrative reforms, which (as in Austria) can lead to the privatization of state property (4). As for the theoretical framework of IRM, the study of reformed management structures should be paid more attention.

Zusammenfassung

Dieser Artikel wendet das Konzept des institutionellen Ressourcenregimes auf aktuelle Veränderungen in nationalen Waldregimen in Europa an. Dadurch sollen sowohl einige der wichtigsten gegenwärtigen Änderungen in Waldregimen auf nationaler Ebene illustriert als auch die heuristische Aussagekraft des IRM-Konzepts getestet werden. Als wichtige Veränderungen identifizieren wir: Die Errichtung einer marktwirtschaftlichen Ordnung mit Privatwald in Osteuropa (1); die (kompensierte) Einschränkung der Nutzungsrechte von Eigentümern im Interesse des Naturschutzes (2) oder im Interesse der Erholungsleistung (3); sowie die Verbreitung betriebswirtschaftlich orientierter Organisationsprinzipien in der Verwaltung, welche (wie in Österreich) mit einer Privatisierung von Staatseigentum einhergehen kann (4). Hinsichtlich des IRM-Konzepts finden wir, dass der Aspekt der reformierten Managementstrukturen zusätzlicher Berücksichtigung bedarf.

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1. Introduction and Database

As more and more natural resources are facing competitive uses, increasing scarcity and destruction, information on the generation and alteration of resource-specific institutions seems to be crucial for sustainable resource management. This paper gives a overview of different kinds of regime changes in forest institutions in Europe and studies recent changes in the institutional framework for the management of forests. Whereas changes in property and use rights are quite obvious for economies in transition, the question as to whether and how trends such as New Public Management, decentralisation and privatisation have affected the forestry institutions in Europe remains open.

National regime changes are categorised and studied on the basis of a given resource and regime definition. On the basis of four selected case studies, our paper will reply to the following questions:

- How have property and use rights relating to forests changed in the past decade in Europe?
- Which institutional factors have changed recently in Europe? What are the implications for forest management?
- Did changes also take place in Western Europe?
- What triggered these changes?
- Did the processes in question involve incremental changes or external shocks?

We shall start by giving a definition of the concepts "resource" and "institutional resource regime" (Chapter 2). The institutional framework will be understood here in a broader sense and it will be defined in terms of ownership and use rights and the provision of resource-specific policies. Different types of changes will then be identified from a theoretical perspective (Chapter 3) and illustrated using references to selected forest regimes (Chapter 4). A comparison of the potential influencing factors and the changed or emerged institutions will help in the development of a model and hypothesis with respect to the conditions for the emergence and change of resource-specific institutions (Chapter 4).

With regard to procedure, we initially planned to study institutional changes through the analysis of structural forest data. However, we had to adapt our research strategy, because evaluation of the data available on ownership structure would only provide information on ownership change, and the other institutional dimensions such as management structures or the adaptation of use rights would have been more or less neglected.[1]

2. Institutional Framework: The Institutional Resource Regime

The starting point of our analysis is the question as to how institutions affect individual behaviour and resource management. Resource use can be influenced and controlled by means of resource-specific policies and order-policy interventions: the institutional framework in a broader sense is defined in terms of the ownership and use rights to a

[1] The structure of forest property was considered stable in the Forestry Statistics for 1992-1996. Figures for 1980s and 1990s are more or less the same. (Eurostat 1998: 49)

resource and the restrictive provisions of special policies for the exploitation and protection of resources. The central postulate of this new approach assumes that these two steering dimensions are complementary and must both be considered if sustainable resource management is to be achieved. Furthermore, a comprehensive overview of the regulations affecting different goods and services is required. We refer here to Institutional Resource Regimes (IR) for uses of natural resources which promote sustainability.

Before presenting the analytical concept of a resource regime, we would first like to provide a brief definition of what is meant by a resource.

Resource[2]

We define natural resources as natural and man-made components of nature that are important to people[3] (Wiesmann 1995: 13; Siebert 1983: 2). Socio-economic and socio-cultural factors play a key role in what is and is not defined as a resource (Grima and Berkes 1989: 33). The historical point in time and spatial reference (local, global) are also important here. A distinction is made between the resource stock and its fruit/sustained yield. When we refer to a natural resource, we intend both its stock and its sustained yield. (Ostrom 1990: 30f.)

The time taken for renewal provides information about whether it is a renewable or non-renewable resource. Depending on the existing resource stock, renewable resources can renew themselves within decision-making periods that are relevant to humans without targeted human intervention (Endres and Querner 1993: 3).

Resources provide different goods and services. Resources give rise to either direct use (e.g. as input factors in production processes or direct consumption option), indirect use (e.g. adsorption sink for pollutants, ecosystem services) or immaterial use (e.g. in the form of landscape, "amenity/aesthetic/cultural values") by people (Young 1992:8-10; Perman et al. 1998).

A distinction is made between the owner, appropriator and final consumer of a resource. The resource situation can be characterised by the number of beneficiary groups and uses. It is very common for different beneficiary groups to compete for different uses (Young 1992). The disposal and use of the resource stock, the sustained yield and the goods and services based on the resource can be subject to different regulations with respect to property and use law.

From an institutional perspective, it is now significant that numerous uses, use and property rights and beneficiary groups exist. All of the institutional regulations which influence the behaviour of the different beneficiary groups and owners and their rights can be defined as a regime. Whereas owners have actual ownership of a piece of land and enjoy the rights associated with this ownership, appropriators have clearly restricted use rights relating to specific goods and services of a resource (e.g. concessions for use of wood in forests). Final users are those beneficiaries who actually consume the acquired goods, e.g. firewood.

The following graphic provides an overview of the various beneficiaries along the production chain.

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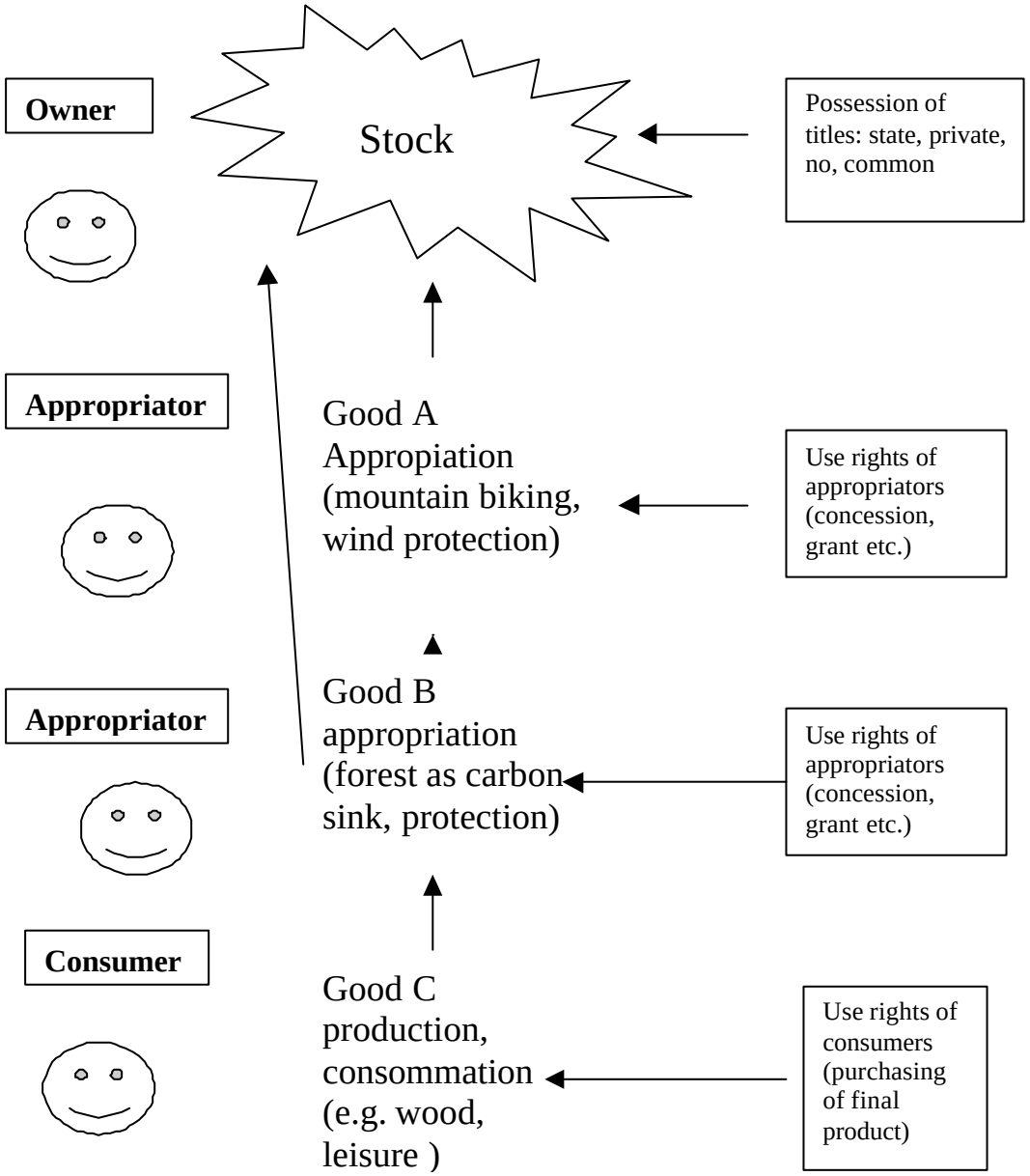
2 On definition of resource, cf. Kissling-Näf et al. forthcoming.

3 The Internet is an example of a non-natural resource.

Diagram 1: Entitlements of owners, appropriators and users



Resource management and use and, hence also the status of a resource depend on the extent of the rivalry between the uses of the numerous goods and services provided by the resource and the consistency and coherence of the institutional provisions that regulate the behaviour of the owners and appropriators. The effect of the regime should depend to a great extent on whether the different regulations are co-ordinated.

Institutional Resource Regime

Individual action and the behaviour of final users, appropriators and owners depends largely on the institutional incentives. Empirical examples demonstrate that the actual use regime is not only dictated by the selected ownership structure but results from the combined interaction of the ownership structure, user rights of different actor groups, state intervention and management practice (Kissling-Näf forthcoming). The central elements of the institutional framework are, therefore, dictated by the ownership structure, the regulation of the property and use rights at the different actor levels and the sectoral political provisions that define the protection and use of certain goods and services, as well as management structures. The named institutional components are discussed in both the public policy literature and in institutional economics. Therefore, we consider as an institutional framework, an institutional resource regime which combines the prominent programme elements of a resource-specific protection and/or use policy (= policy design) with a specific arrangement of the formal property and use rights for the goods and services provided by a natural resource (= regulative system). These constitutive elements are listed in Table 1 below.

Table 1: The central elements of an institutional resource regime (IR)

Institutional Resource Regime	
Policy Design	***Property and use rights (regulative system)***
Political aims	Possession of title
Instruments	Organisation of exclusion
Target groups	Access control
Institutional (implementation) arrangement	Decision-making processes in the regulative system
Causal and intervention hypothesis (rationale)	

From an empirical point of view, the analysis of the transformation and effects of IRs would imply the identification of the above-mentioned constitutional elements of a resource regime:

Possession of title and property and use rights: Different types of property rights exist for natural resources. A distinction is made in the literature between four classical types of regimes: no property, common property, state property and private property (see Table 1). Their classification is based on different criteria (Bromley 1991; Libecap 1993; Ostrom 1990) which include possession of title, organisation of exclusion, access control and decision-making processes within the regulative system. In the case of private property, exclusive property title is in the hands of private individuals or corporations and this must be respected by others interested in the use of this property. The enforcement of the rights is guaranteed by the state. In the case of no property (“res nullius”), we have a classical case of resources, for which access is not formally regulated. Common property and open access ("no property") were thrown together for a long time in the literature and this led to the misleading conclusion that collective ownership in the sense of the "Tragedy of the Commons" (Hardin 1968) would lead to the destruction of the resource. It has now been established, however, that in such cases of collective ownership, the resource in question is controlled and managed by an identifiable group. Moreover, the group creates rules governing the use of the resource. Thus, common property can also be described as the groups’ private property.

Table 2: Typology of property-rights regimes

	Private Property	**State Property**	**Common Property**	**No Property Open Access**
Exclusive title in the hands of	Individuals Corporations	Local-authority level Province/State level Federal level	Group Corporation	Everybody and nobody
Exclusion of non-owners	Yes	(Foreigners)?	Yes	No
Control of access	Individuals and corporations backed by State	State	Group State	No
Decision-making process in the regime	Individuals Corporation	Government Administration State agency	Corporation	No
Reasons for resource degradation	Lack of incentives to fight against negative externalities	Lack of administrative control of behaviours of those authorised to use the resource Lack of political robustness to resist to pressure from those allowed to use the resource Inability to pass rules to reduce harvesting to sustainable levels	Non-compliance of the members with the group rules Inability to pass rules to reduce harvesting to sustainable levels	No rules at all No incentives to produce public goods
Examples	Farming land	National parks State forest	Underground water Grazing land	Air

Source: authors' version compiled on the basis of Ostrom 1990, Bromley 1991 and Devlin and Grafton 1998.

The institutional economics literature also shows that there is no theoretical or empirical reason for a belief that the private property system per se is better than the other regulative systems[4]. Devlin and Grafton (1998) state that there is no "best" regulation and that a mix of regimes can be found in most cases and environmental damage can be found in all regimes.[5]

Policy Design: Here, we understand policy design to be all formal legal regulations, informal co-ordination clauses and institutional structures of a public (protection or use) policy which policy makers (parliaments, governments) and social actors (competing user groups) deem necessary to regulate the use of a natural resource, which is politically perceived as being scarce. A policy design always includes substantial and procedural, material and symbolic

[4] "It should never be assumed that private-property systems are superior to common-property or state-property systems in either an economic, ecological or social sense". (Devlin and Grafton 1998: 39)

[5] However, it is possible to identify conditions for the success of specific regulative systems. For example, state property makes sense when the non-market benefits constitute an important element of the goods and services based on a resource and these are widely spread in geographical terms. Moreover, citizens should have the opportunity to express their preferences in this case and the state should have the means to implement the relevant rights. This kind of regulative system is only successful when it sets the incentives for the individual in such a way that they are compatible with the characteristics of the resource and the institutional conditions. Devlin and Grafton (1998: 138) state: "The key to success is to set up an incentive structure for individuals that is compatible with both the characteristics of the resource and institutions." Thus, there is no sense in introducing private fishing rights in Africa when a collective system already exists.

dimensions. Here, we propose drawing a distinction between the five constitutive elements defined below (Knoepfel et al. 1997: 83ff; Schneider and Ingram 1993: 81ff):

1. *Aims* include the social condition to be aimed at in the area of the collective problem to be solved (e.g. sustainable use of resources). On the level of legislation, such aims are often formulated in very abstract terms (e.g. "to protect forest as a natural environment"). In contrast, the target values defined in decrees and administrative regulations are usually more concrete.

2. *Instruments* comprise the measures to be implemented to achieve the defined aims and the procedural rules for their implementation. They define the intensity of intervention involved in a policy design (e.g. information campaign, financial incentives, rules/bans) and the procedural form to be taken by the exchange between the relevant administrative authorities and resource user groups (e.g., obligatory consultation, legal right of appeal).

3. *Target groups* are social actors whose behaviour is considered in the protection or use policy as relevant to the resolution of the problem in question. State intervention aims to transform or stabilise this target-group behaviour in order to achieve the desired effects, such as the conservation of forests in their present volume and geographical distribution

4. *Institutional arrangements* define the authorities and offices responsible for the implementation of instruments. In addition to this area of competence, they are also charged with decisions concerning the public resources (e.g. money, infrastructure, personnel, time, information, consensus) at the disposal of the identified implementing actors.

5. In order to realise the desired effects, each policy design is based on a *rationale*, which comprises hypotheses on the effects structure behind the collective problem and the possible forms of state action. The rationale can be detected by analysing the *causal and the intervention hypothesis* (Kissling-Näf et al. forthcoming).

Both property rights and policy instruments have a significant influence on actors' behaviour. Therefore, the synopsis of an institutional economic and policy analysis perspective is very useful and does increase the steering capacity of resource management by revealing discrepancies (between user groups, uses and rules) and by inducing harmonisation of needs and rules.

3. An Evolving and Changed Institutional Framework

In many countries, the institutional framework for the management of forest has evolved and changed in order to adjust to social demands and new trends such as globalisation, decentralisation and new public management. The State of the World's Forests recognises a deliberate shift of responsibilities away from centralised public management in the form of a transfer of significant areas to the private sector, by entrusting the private sector with the implementation of government-designed plans, by entrusting the local communities with the implementation of forest management plans as well as by establishing partnerships with the private sector and NGOs in areas such as research and policy enforcement (FAO 1999:72).

The significant trends in recent forest legislation identified by Schmithüsen include a diversification of objectives in new forest laws, a transfer of competencies, a replacement of regulation by joint management systems engaging forest owners and public authorities on a contractual basis and a shift towards informational and persuasive instruments (Schmithüsen et al. 1999: 9f).

When working with the concept of IR presented above, we must respond to the questions as to how (and which components of) the forest institutions are affected by change and how the induced effects on resource use should be judged. The focus will be on the main elements such as possession of the title, the property and use rights of owners, appropriators and consumers and the incentives provided by sectoral policies as well as management structures. An adaptation of the frame is deemed to have taken place if one of main elements of an IR has undergone an alteration. It is impossible to speak of real change in any case. Furthermore, we must identify the level, on which the adaptation has taken place and the element of the institutional framework that is involved. New use rights, such us the access right, may have been introduced, however the formal change may have been the result of the redesign of the protection and use policy.

It is possible to identify different types of alteration of forest institutions concerning the contents of change.

Table 3: Chosen examples

Components of the institutional frame undergoing formal changes	**Aim of regime change**	**Selected example**
- Order frame (constitution) - Regulative system - Policy design	Market economy framework with corresponding property order!	Eastern Europe
- Policy design: aims and instruments - (regulative system: organization of exclusion and access control less likely to change)	Change and expansion of use rights	United Kingdom: Right of access
- Policy design: aims	New definition of implicit use rights or restriction of owner's use rights	Switzerland: Biodiversity in the forest
- Policy design: implementation arrangement	Privatisation of the management structures	Austria: Privatisation of state forests

We have tried to include the widest possible spectrum of institutional changes in the examples we have chosen. In the different countries, we concentrate on individual elements whose significance could be relatively extensive as seen from the outside. The most significant formal changes should be found in Eastern Europe with the new order framework and the transfer or restitution of title. In England, an attempt is being made to change and hence redistribute use rights. In Switzerland, the compensation awarded for non-use of areas signals the recognition of property rights in the area of biodiversity. As the World Bank's report and analysis of forest law show, however, most of the adaptations take place in the

area of the management of public policies, e.g. the exclusion, amalgamation and privatisation of administrative entities (FAO 1999). However, it will not be possible to deal with all of the changes in the institutional framework for the countries in question. Trends, such as New Public Management or privatisation efforts at different levels, will have repercussions of some form in each of the countries in question. Moreover, the use of resources can be affected by processes of institutional change in the entire political system, for example regionalisation or the decentralisation of overall control.

It is difficult to assess the content of regime adjustments. The coherence of the entire regime represents a starting point. Diachronic analysis will make it possible to make a statement on the breadth of the regime and will reveal the goods and services for which the use of the resource was regulated using specific public policies, or by means of the introduction of property and use rights over time. The coherence of regimes can be judged through a combination of the policy design and property rights. The actual effects must be examined empirically.

4. Examples

4.1. Central and Eastern Europe

With the demise of state socialism, the countries of Central and Eastern Europe embarked on programmes involving fundamental economic and political reform, such as market liberalisation, administrative reform and the recognition of private property rights. The general intention behind these reforms has been to restructure over-controlled and often inefficient state properties and enterprises. As a matter of course, the alteration of core elements of economic and political systems also strongly influenced the forestry sector and has already led to important changes in the respective forest regimes (Cirelli 1999). However, as the countries in question adopted different strategies and solutions to deal with similar problems, we will also present some of these differences.

With regard to property rights, it is possible to observe a trend for "privatisation" on behalf of the *owners*, *appropriators* and *users* of forest resources.

Private *ownership* of forest was authorised in most of the countries in the wake of the reform of land tenure. The privatisation laws and the amount of forest tenure transferred to private owners strongly differ from country to country. In Central Europe, remarkable proportions of forests, ranging from 11% in Lithuania and 67% in Slovenia, can already be found in private ownership. In several countries, some forests were already in private (mainly agricultural) or church ownership during the period of state socialism (for example Poland) and – as elsewhere in Europe – most countries already had a considerable amount of state forests before socialist rule (Bemmann 1999). These countries had already adopted rules for the private forests similar to those applied for state forest. Restrictions were imposed, for example on the right to split up and sell forest property in order to prevent the fragmentation of large forest areas. Forest lands are mainly transferred to private ownership through restitution and occasionally through sale. In contrast to Central Europe, there is very little (less than 5% in Rumania) or no private forest (Russia, Bulgaria, Albania) in Eastern European countries. In some cases, the introduction of private ownership has proven difficult as even before the socialist period, there was no tradition of private ownership of forest (e.g. in Bulgaria). In Russia, both the parliament and the president have so far rejected attempts to

privatise forests, but private persons (mainly peasants) can lease land for up to 49 years and companies (also international) can obtain concessions for the harvesting of wood. Despite the fact that the Russian constitution contains provisions for private land tenure, there are still no laws governing land tenure and private forest ownership, hence there are no private forests in Russia (Bemmann 1999: 125f).

However, despite the absence of private ownership, it is possible for private persons or enterprises to become *appropriators* of forest resources. This mainly concerns the harvesting of trees, although it sometimes also covers planting and other forestry activities. As the case of Russia shows, it is possible for international firms to obtain a concession to commercially harvest wood. Sometimes the forestry administrations try to retain their monopoly for the appropriation of timber, as they believe themselves to be the only actor capable of competently managing forests (Cirelli 1999: 8). In these cases, the forest administrations either work on behalf of the private owners, who do not manage their own forests but obtain the profits from the sale of timber, or prevent the private owners from using their resources efficiently.

Finally, "privatisation" can also be found with respect to *users* as a result of the introduction of the official private market. The wood consumer now can freely choose between different providers, as the timber market and industry have been privatised (Krott 1998: 116).

The newly introduced forestry laws in Central and Eastern European countries contain commitments to maximum productivity, sustainability and multifunctional forestry. There appears to be a consensus about the multiple beneficial functions and the need for a sustainable use of forest. For example, the Hungarian law establishes *inter alia* the quantitatively sustainable use of wood and the protection of biodiversity. Most of the authors relate this policy change to the influence of international initiatives such as the Rio Forest Principles, the Helsinki process and – to a lesser extent – the Eastern enlargement of the European Union (Glück et al. 1998). It is important to note that the countries in question already had long-standing forest plantation policies and some environmentally sound management methods were implemented under socialist rule. After the Second World War, countries like Poland and Hungary increased their forest cover to a far greater extent then any country in Western Europe. This was also the result of both government planning which was free of market pressure and other short term interests and the institutionalised control of policy implementation. However, temporary over-exploitation was also common when a strong demand for wood was expressed at political level (Csóka 1998: 11).

The forest policies are rather extensive and contain a range of different types of instruments. Their core elements appear to take the form of regulative instruments mainly in the form of mandatory planning procedures. They also include authoritative instruments, such as bans on illegal cutting or grazing, and persuasive instruments, such as the organization of education and research (Gaizutis 1998: 153). In some places, incentives are provided for deforestation and private ownership in the form tax exemptions and subsidies.

The organization of policy implementation is usually divided into an administrative element for the forest sector and a privatised one for the timber processing (Krott 1998). The administrations are rather hierarchically structured with separate forest administrations for the state, sectors and districts, each of which is assigned different implementation tasks (Gaizutis 1998: 153). The openness of the planning process varies extensively in the different countries. Some countries have made consultation with various interested actors, such as

owners, the forest industry, ministries and non-governmental organisations, compulsory (Hungary, Estonia). In others, like Russia, the planning process is the exclusive preserve of the administration (Cirelli 1999: 13).

Forest policy usually addresses the target groups without differentiating between state and private actors. A policy design for private forest is only lacking in countries like Russia which have no private ownership. The main target groups are the forest managers and the forest owners. Whereas in many countries, the forest owners are responsible for the appropriate tenure, Hungarian law holds the forest manager responsible for the submission of forest plans (Cirelli 1999: 9). In this respect, Hungary is an interesting case, as the central role of the forest manager is highlighted. It could be argued that this is a result of the strong position of the professional foresters who already were in charge of planning in the socialist era. The selection of further instruments, particularly the strong emphasis on planning and the obligatory appointment of trained professionals, are coherent instruments for the choice of this main target group. As Cirelli correctly points out, this focus may discourage private owners from getting involved in forestry (Cirelli 1999: 7).

4.2. Access Rights in the United Kingdom

In the 1980s and 1990s privatisation was an important issue in the United Kingdom's forest policy. One of the incoming Conservative government's objectives in 1979 was the sale of state-owned forests. A target was set for the sale of 100'000 ha by the year 2000 with the aim of rationalising forest management. By march 1997, the Forestry Commission had sold 66'000 ha of stated-owned land which was difficult to manage or consisted mostly of conifer plantations. Thus, public awareness was raised with respect to the importance of non-market benefits and, especially, the loss of public access. This was one of the reasons why the Forestry Commission reconsidered the privatisation of the entire area in 1994 and proceeded with the gradual disposal of the area. As a result of public concern about the loss of access rights, the Forestry Commission initiated a policy whereby local government could "enter into formal and legally binding access agreements for areas of forest about to be sold". (FAO 1999: 65).

The privatisation process and the sales have been halted by the new Labour government. They have been replaced by the idea of introducing a new statutory right of access on foot for open-air recreation to mountain, moor, heath and down, and to registered common land.

Whereas in countries like Finland, Norway and Austria, Denmark, Germany and Switzerland the public has a legal right of access to forests, in France and Italy visitors are tolerated as a matter of custom or non-enforced law. However, no legal rights exist in Belgium, England, Wales and the Netherlands. Almost everywhere in Western Europe, the public can access the state-owned forests. Trespassing of private forests is excluded in England and Wales. (Hummel 1992: 239)

As already mentioned, public awareness of the value of the non-market benefits of forests has increased in UK. A survey shows that in 1998 twice as many people visit woodlands as visited the coast. In 1998, 330 million days were spent in woodlands in England and Wales. Between 1994 and 1998 day visits have been increased by 17 %. Whereas walking is the most popular activity, other recreational activities such as picnicking, cycling, horse riding, bird watching and orienteering are gaining in popularity.

Through the Forestry Commission, the government manages almost 350'000 hectares of woodland in England and Wales and is by far the largest owner of woodland and provider of countryside access. This huge estate enables the Government to provide greater access to forests than to other types of land. Whereas in urban areas, access to woodlands is poor, in rural and upland areas, the level of provision of recreation amenities through public estate is high.

The British government has reversed the trend of depriving the public of its existing access rights through its Framework for Action on Access to the Countryside. Indeed, the framework for action introduced in 1999 extends the statutory right of access on foot to the countryside in UK. The Forestry Commission was asked to report on improving access to the countryside. The commissioners examined three broad approaches for the extension of access as new proposals for woodland access: statutory, voluntary and direct intervention on the Forestry Commission's estate.

A statutory approach requiring primary legislation and creating rights to all woodland has been rejected. The Commission argues that for the purposes of occupiers' liability, at present, the public can access the Forestry Commission's estate as lawful visitors. The introduction of statutory law would not result in increased access to the overall area but would reduce availability of access on leasehold land. The Commission recommends the introduction of new and voluntary incentives encouraging landowners to provide access to woodlands. For this purpose, it is proposed to introduce targeted grant aid and government funding schemes for woodland creation and management, so as to favour priority areas with a high demand for access and a shortage of provision. Currently, most access to woodlands is the result of voluntary agreements. In order to enable long-term access, a new instrument enabling landowners to grant access rights in the form of a dedication should be created. Furthermore, enhancement of the access and recreation on the Commission's estate could be achieved by targeting the purchase of existing lease-hold woodland in priority areas and by buying land to create new woodlands. The provision of infrastructure and facilities are key factors for the enhancement of access and recreation on state-owned land. National and local access forums shall be established by the government to identify the priorities for increasing access. New rights of way are recommended as means of improving the links between forests and other land ([Forestry Commission, 1999 #1003]).

The described policy instrument mix aims at providing greater public access to woodlands. By means of classical financial incentives, new voluntary measures and the purchase of land shall improve access opportunity of users. "We believe our recommendations would not only safeguard existing use, but also deliver greater public access to woodlands in areas where there is a clear need to provide more opportunities. Our view is that this strategic package is appropriate to England and will provide better quality access opportunities in a more positive and acceptable way than a statutory approach would." ([Forestry Commission, 1999 #1003])

4.3. Biodiversity in Switzerland

The Swiss case illustrates how reforms of public policy can alter the content of property rights. Contrary to the tacit assumption, the public policy for the protection and promotion of biodiversity did not limit but slightly extended property rights.

In Switzerland, not all forest products are traded by markets and, in comparison with other countries, a large amount of public money has been invested in the production and

maintenance of non-market benefits. In mountain areas, for example, forests are critical for the protection of human settlements and infrastructure against avalanches, landslides and rock falls. Furthermore, forests are home to 35% of all flora and fauna species. Leisure activities are also of great importance. Previously a significant private commodity, wood has partially relinquished its importance over the past two decades. Since 1987, public forest enterprises in Switzerland can no longer cover their expenditure with the subsidies and income from sales of wood. One strategy promoted by state actors and the Swiss forest association is the marketing of external effects and redesign of new forest products. (Limacher et al. 1999: 13, Kissling-Näf and Varone 2000).

From the beginning of the last century, Swiss forest policy strongly restricted property and use rights by law. For almost one century, the preservation of the forest cover was the main official policy goal. This goal was enforced by a strong legal definition of forests, prohibition of deforestation, a ban on clear-cutting and compensation in kind for deforested areas. The owners are also obliged to seek authorisation for the partitioning of forest and harvesting of trees. In addition, the public has free access to all forest and to – a certain quantity of – mushrooms and to berries. This is the case for both the publicly and privately owned forests; the latter count for roughly a quarter of the forest cover.

In the 1990s, a new Federal Law on Forest (*Waldgesetz - WaG*) was introduced which placed greater emphasis on the ecological aspects of forests and multifunctionality of forestry. For example, the protection of forest as a natural environment (Article 1, Paragraph 1b *WaG*) and maintenance of the biodiversity of plants and animals (Article 20, Paragraph 2 *WaG*) are stated objectives. The concepts of "protection as a natural environment" and "maintenance of biodiversity" are often used synonymously. The instruments used to implement the new goal are mixed, but consist to a large degree of financial incentives. In this respect, subsidies have become the most important steering incentives since the mid-1980s, and federal subsidies have been multiplied over four times in the interim (Kissling-Näf and Zimmermann 1996: 60ff).

Up to 50% financial support is provided for protective measures for the upkeep of forest reserves by the federal authorities (Article 38 al. 3 *WaG*). In Article 38 al. 2b *WaG*, financial support is also allocated for "measures within a set term such as the tending of forests, harvesting and hauling, when the total costs incurred are not covered or are exceptionally high for reasons to do with the protection of nature".

Particular attention should be drawn in this context to the fact that forest protection and use policy is intervening in the use rights of private and public owners by compensating owners for not using forests commercially and subsidising maintenance measures. On the one hand, the financial support can be understood as compensation for the loss of commercial revenue, while on the other, compensation payments could also be understood as the purchase of certain elements of the environment on behalf of the Swiss people. Bromley would speak of an institutional change "in response to new collective perceptions" of what (he) call(s) "the full consumption set – for instance, institutional change, that focuses on the environmental aspects of certain commodities purchased in the market" (Bromley 1997: 53).

4.4. Austria: The Transformation of Austrian State Forests into a Stock Corporation

The development of forestry ownership in Austria was strongly influenced by the feudal system. 42% of the country is currently under forest, 80% of which is in private ownership, 4% in corporate ownership and 16% is owned by the state. The division between state and imperial property was made in the mid-19th century. In 1872, the Forest and Domain Authority (*Forst- und Domänendirektion*) was established for the administration of state forests. After the First World War, Austria received a ban from the League of Nations which was conditional to the running of the state forestry operation as the Austrian State Forests Public Enterprise (*Wirtschaftsbetrieb Österreichische Bundesforste*).

Forest organisation in Austrian is now divided between three instances and includes the forest authority, which is run by the state forest authorities, the agricultural chambers as the organisations representing corporate interests and the Austrian *Bundesforste* for the management of state forest.

On January 1st 1997, all of the state forest was released from the administrative corpus and transferred to the legal status of a corporation. The Österreichische Bundesforste AG is an operating company, however 96.5% of the property remains in the hands of the state. With the Federal Forest Law of 1996, thirty thousand hectares of forest were transferred from the property assets of the Republic of Austria to the company Österreichische Bundesforste AG. (homepage: 12) The total value of the transaction was ATS 200 million (Euro 14.5 million) and is in the hands of the federation which is, hence, the sole shareholder. The company was also allocated a right of profit participation to the lands, for which 50% of the annual surplus must be paid to the state. "The new legal and organisational form supports the requirements of a modern, independent company with sole responsibility, whose business policy is completely focused on the aims of a company." (Österreichische Bundesforste AG 1998: 12)

The tasks and objectives of the state forests company are not affected by the reform. Paragraph 4 Section 2 of the Austrian Forest Law of 1996 defines *inter alia* the "achievement of the maximum economic success in the production, use and, should the need arise, further processing of the raw material timber and ancillary forestry products" as the main objective. The aim of the reform is to increase the economic feasibility of the Bundesforste, reinforce management and increase flexibility.

At the same time, the overall organisation of the state forests was tightened, a measure which involved the halving of the number of individual forest operations and a considerable reduction in the number of forest rangers' lodges. (*Bayerisches Staatsministerium* o. J.: 18ff.) This involved a reduction of employees from 804 to 564 with the help of a special social plan.

The aim of this reform is to create a strong and profitable company which can diversify its activities and access new sources of income in the area of property, tourism and leisure. The strong position of Austrian land owners is demonstrated, *inter alia*, by the fact that the company receives payments for relinquishment of use rights in national parks, fees for the use of forest paths and financial compensation in the case of contractual nature protection projects.

The above-described reform is the product of a debate that goes back a very long way and the logical outcome of decisions taken in the early 20th century. As early as 1925, in the discussion surrounding the structure of the administration, a decision was taken for the state forests as opposed to a single administrative instance: sovereign tasks were to have been separated from economic management, however the management structures for the state forests were integrated into the national budget. At that time, distance was taken from the idea of giving this entity its own legal personality. The event that finally resulted in its exclusion was Austria's entry to the EU. The state forests, among other state assets, were unloaded to enable Austria to comply with the EU criteria of a more streamlined state. The reform could be implemented painlessly because this was always a profitable organisation. At company level, this new structure means that the state forests are no longer embroiled in complicated administrative procedures, such as the budget process, and means that flexible market-oriented management can finally be implemented (Österreichische Bundesforste AG 1998).

5. Conditions of Emergence and Policy Learning

These four examples demonstrate the very wide-ranging changes taking place in institutional resource regimes. Property rights usually remain very stable but, as we have shown, they sometimes change too. The institutions in these countries underwent a lot of adjustments in recent years, and a lot more research will need to be carried out to understand their interactions and effects. In most cases, different elements were changing simultaneously and interventions in parts of the policy design were more common than redefinitions of the property rights or changes in title.

The examples of Austria and Central and Eastern Europe show that the adjustments and changes were incremental and are path-dependent. It would appear to be very difficult, for example, to introduce the concept of private property in an Eastern European country where it is without precedence. The privatisation of management structures in Austria was the result of several decades of wrangling to find the right structures. The definition of rights for biodiversity can only be understood against the background of the differentiation of goods and services and Swiss property rights. Progress in the sense of incremental trajectories has been supported by external events. This is the case in Switzerland, where the forestry laws were under revision, and in Austria which joined the European Union.

In contrast, it was minor or major political earthquakes, such as a change of government or the fall of the iron curtain, which triggered the far-reaching changes in Central and Eastern Europe and the United Kingdom.

Current studies explain policy change not only in terms of concrete triggers and diffusion of scientific expertise (so-called enlightenment-approach) but increasingly also refer to cognition theory. Within the latter, learning as a paradigm and the diffusion of ideas are of particular interest. Innovations and incremental changes result not only from external factors or the diffusion of a new idea but also from learning processes. Learning theory argues that the reality concerning a problem or the definition of a situation is reconstructed through complex struggles with respect to its interpretation. According to these interpretative or constructivist approaches, ideas influence the political process as an independent factor, which is similar to the importance of learning processes and ideas in Sabatier's Advocacy-Coalition-Framework: the changing contents of ideas or core beliefs result directly from new

coalitions with a different ideological background (Sabatier and Jenkins-Smith 1993, Sabatier 1999).

In accordance with Hall, it is also possible to distinguish learning processes of different depths. A first-order change can be defined as a minor or incremental adjustment, for example budget adjustments. Second-order changes include adjustments of policy instruments after perceived failures. Paradigmatic changes would be defined as third-order changes (Hall 1993). The change of government in the United Kingdom to the Conservatives in the late 1970s and then back to Labour in the late 1990s could be described as a third-order change. A third-order change transfers changes to policy design aims and instruments, as in this case to the introduction of an accession right in the UK. The latter would be defined as a second-order change.

Hence, the institutional changes in the presented examples are second- or third-order changes. Not only the depth of the learning processes or its contents are important but also the way in which knowledge has been acquired and how it influences the acts. Taking the different subjects and modes of learning into account, it is possible to define three forms of learning: the coping of contents, the synthesis of approaches and the noumenon inspiration (Rose 1993). Moreover, the way in which certain ideas diffuse must also be considered. Applied to our cases, it would be interesting to study the diffusion of the ideas of privatisation and New Public Management, the modes of diffusion and learning processes that took place and the institutions (such as the IMF or the World Bank) that supported the unification of forestry laws.

Thus, in order to explain the changing institutional framework, we believe that not only the contingent external triggers of the policy discourse but also the communication networks and the learning processes should be taken into account.

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