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**Economic Efficiency and/or Political Innovation?  
Institutions and Markets in Trans-boundary Water Management:  
Lessons from Lake Constance**

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Notes for a panel presentation  
at the conference on

“Allocating and Managing Water for a Sustainable Future:  
Lessons from Around the World”

Natural Resources Law Center  
University of Colorado School of Law

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My presentation will focus deliberately on one element in the debate on (international) water management – the symbolic dimension of water. This symbolic dimension adds an element to the value of water that makes rational water management more difficult – independent from the question whether we try to use a pure regulatory or a market-based approach to water management. This does not mean that attempts to make water allocation more rational through the use of market mechanisms are not useful. But advocates of market mechanisms must be aware of this additional value dimension of water that gives the value of water a volatility that goes beyond the exchange-value of commodified water. Whereas this additional dimension of water makes rational water management more difficult it contains also more potential than just efficient production of an important economic commodity. Trans-boundary water management and politics can contribute to re-inventing political community and democracy on a transnational scale.

Because this is the basic message to this panel my presentation will be very much focused into this direction leaving aside many important aspects of water management in the regions I am looking at. The River Rhine Regime – and to a lesser extend – the Lake Constance Regime – are widely studied international regimes and we have highly distinguished scholars at this conference who have studied those regimes and know probably much more about the management institution than I do. My deliberately specific and therefore rather narrow focus is hopefully accepted as legitimate in the sense that I do concentrate on something which provides additional insight to other contributions that will be made at the conference.

My presentation proceeds as follows.

First, I would like to share some insights from Western European experiences with transboundary water management. I will very briefly mention the most important issues in water policy in the River Rhine basin and the Lake Constance basin touching the topics, the progress made and the most important triggers of such progress. Hereby I would like to stress the importance of highly visible events/accidents and of highly symbolic campaigns in the success of the international water regimes.

*See transparency 1.*

*Transparency 1.*

**Issues and Progress of the International River Rhine Regime**

- o Chloride: international regime not successful, but the problem has been reduced because of changes in the economic environment
- o Chemical Pollution: slow but steady progress, as a result of national, European and River Rhine regime activities
- o Industrial security and emergency plans: strong progress after a major accident 1986
- o Ecology: major progress in revitalization of ecosystems with the help of a highly visible campaign to reinstall salmon (“Salmon 2000”)
- o Flood control: integration of this highly controversial issue of two disastrous floods in the mid-1990s

**Issues and Progress of the International Lake Constance Regime**

- o Eutrophication: full turn-around after the riparian countries spent about € 4 billion from 1970 to 2000
- o Industrial security and emergency plans: the trans-national water conservation coalition has been able to impede major development projects (oil pipe line, oil storage in the Alps, development of the High Rhine into a major waterway, transfer of water into other watersheds)
- o Chemical pollution: strictest emission standards for motor boats in the world
- o Ecology: ecosystem approach since the mid-1980s, massive re-naturalization programs for the shoreline

Second, I will focus on the role of markets in water policy in my case studies by using a broad definition of “market mechanisms.” Included are various attempts to solve water management problems with the help of economic instruments such as :

- payments of the beneficiary to the polluter in order to stop the pollution of water (Coase solutions),
- water transfers across regions in combination with financial payments (different types, one was implemented, another one not)
- specific fees on water consumption

*See transparency 2.*

### **The Role of Markets Mechanisms**

- o Attempt to solve the Chloride problem of the Rhine by payments of the beneficiary country (Netherlands) to the polluting country (France) -> failure of an attempt for a Coase solution
- o Attempt to transfer water from Lake Constance to the Neckar (Stuttgart) in order to make the Neckar navigable (1960s) -> failure of an attempt for inter-basin water transfers for industrial expansion
- o At the same time a large municipality-controlled water agency started to deliver water from Lake Constance to the capital of Baden-Württemberg and to many other parts of the Land, 3 Mio people are consuming Lake Constance water now – in exchange (no explicit connection) the Land Baden-Württemberg heavily subsidised the building of sewage treatment plant in the Lake Constance area (population about 500 000) -> success of water (inter-basin) water transfers
- o In 1996, Baden-Württemberg introduced a specific fee on water consumption in order to pay a subsidy for farmers who have to reduce their use of fertilizers -> success in implementing a “user pays” system, instead of only regulating the polluters

No real water markets installed (no scarcity in the area of origin)

The legitimacy of inter -basin water transfers depends on its usage

Economic instruments lead to a change from “polluter pays” principle to a “user pays principle”

Third, after a brief discussion when and why these approaches have failed and when and why they have been successful I point to another “market mechanism”: In contrast to many water management specialists I purport that institutional complexity and “institutional competition” can be a positive element in water management – under specific circumstances!

I will try to demonstrate this by referring to the many trans-boundary institutions in the Lake Constance area and the positive role that the competition among them played for policy innovation and for breakthroughs in trans-boundary negotiations.

*See transparency 3.*

*Transparency 3.*

**Institutions Involved in Trans-boundary Water Governance at Lake Constance**

**Intergovernmental Commissions (international treaty)**

- Shipping Commission
- Water Protection Commission
- Spatial Planning Commission

**Trans-national Coalitions**

- Waterworks
- Environmentalists
- Chambers of Commerce
- Tourism Organizations

**Institutions of trans-boundary regionalism**

- Institutionalized meetings of sub-national government leaders
- Association of leading political and civic leaders
- Meetings of the parliamentarians
- Association of the municipalities

+ **INTERREG** (financial programs from the European Union for trans-boundary cooperation)

Note: Institutional competition in the sense I define it here embodies a very different logic as the public choice approach applies it is advocacy for institutional competition. First, not the same kinds of institutions compete for consumers to provide public service (exit and choice logic) leading to the most *efficient production*, but quite different kinds of institutions compete for legitimacy (loyalty and voice logic) leading to *policy innovations*.

The following part of the presentation takes a further look at the “specific circumstances” under which institutional competition makes a positive contribution to water management and policy innovation. Furthermore, this part is intended as a comment to the paper that Charles Howe and Helen Ingram are presenting.

I will start with the specification of the circumstances under which “institutional competition” is leading towards progress and policy innovations in transboundary water management. It is in those social contexts where water is attributed with a positive “sign value.”

*See transparency 4.*

*Transparency 4.*

**Water has a “sign value”**

Exchange value:

- price/commodity
- supply and demand
- rational calculation

Sign value:

- image/identity
- social and technical constructions
- emotional reactions

If water has a positive “sign value” it

- is a symbol for trans-national community building
- signals a common identity and connected interests
- creates a “sense of belonging”
- determines the image of a region and can be used as a marketing tool (both for political and economic actors)

“Sign value” is a term I borrow from Lash & Urry (1994)<sup>1</sup>. They pit the post-modern concept of “sign value” against the modern concept of “exchange value.” Whereas the exchange-value of water can be calculated, expressed in terms of general utility (monetized prices) and traded, the sign-value of water is fuzzier and refers to the image associated with it. An image is a very emergent phenomenon depending on social trends/constructions and therefore its market value is quite volatile. Furthermore, if water has a sign-value water politics goes beyond the rational calculation and political bargaining. It touches the identity of individuals and communities and triggers emotional reactions that enhance the value of the issue at stake. This additional value can be helpful or it can be harmful, as the following examples show.

Whereas the River Rhine has been had a very negative “sign value” in representing the competition for dominance in Europe between Germany and France in the 19<sup>th</sup> Century and the beginning of the 20<sup>th</sup> Century, the River Rhine and Lake Constance have gotten primer symbols for the unification of Europe after Second World War. In the sixties and seventies and even more so during the time when the Single European Market was created at the end of the eighties and the beginning of the nineties, cross-border water management made major progress since within such a positive discursive environment politicians on all levels were keen on making progress in water management in order to present themselves as important and useful players within the European space.

In consequence, the direction to which the sign value of water contributes (either conflict and war or collaboration and policy innovation) depends strongly on the general political context.

Nevertheless, it seems clear that water is not just a neutral medium for creating social images of groups and institutions but it has a preordination to serve as a powerful symbol.

- Water is connected to specific places and the people who care about these places (as land owners or as conservationists) have a strong interest in water politics – this gives water management a high economic and political significance. The existential and emotional attachment of many people to water made water politics a forerunner in environmental politics. Disputes on water were giving birth to the environmental movement that is now seen as an indispensable element of a civil and democratic society.
- Water is at the same time characterized by its fluidity. This provides for the need and the opportunity for social and trans-territorial interaction. At the beginning, this fluid character of water makes it a difficult task for management in modern times of territorial order – nevertheless, over time, joint water management helps to build

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<sup>1</sup> Lash & Urry (1994): *Economies of signs and space*. London: Sage

bridges across territorial communities – an essential goal in itself in a globalizing world. The environmentalists from Lake Constance have started a few years ago to build a global network among environmentalist who care about conservation issues at important lakes in order to share their experiences and learn from each other (“Living Lakes”, <http://www.livinglakes.org/>)

So, I end up with the proposal that a fourth social goal/value of water that should be added to the three goals put forward by Howe and Ingram:

Global democracy, based on

- a strong civil society, and on
- trans-territorial communities and institutions.

*See transparency 5.*

*Transparency 5.*

**An additional social goal / social value of water:**

- Environmental sustainability (= absolute limits of use)
- Economic efficiency (= cost-benefit-ratio)
- Social equity (= distribution of costs and benefits among the people)

+ ***Trans-national democracy***

political mobilization, civil society

motivation and legitimacy for trans-national community and institution building