Impacts of governance styles on river restoration in NW Europe

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Abstract
Restoring the naturalness of rivers is considered important in many North-western European countries. In this paper, we address the impacts of governance styles on three river management plans in Germany, France and the Netherlands. The comparative analysis assesses the extent and means of involvement of different actor types at different phases of the process. By linking these insights on the stakeholder participation to the project achievements, the impacts of the governance styles on integrated river management planning is evaluated. This is characterized in terms of the connectedness of actors and issues, financial resources, policy learning and the societal background, including the Zeitgeist.

Introduction
River restoration and conservation projects conducted in river systems in different North-Western European countries share comparable design and management elements, but also exhibit strong differences. In this paper, we present three different projects in the Netherlands, France and Germany. We identify the nature of the plans, the extent to which the projects could be implemented as planned and their follow up. Developing and implementing plans for natural resources inherently takes place in a multi-actor setting and the eventual plans and projects can be regarded as the product of this network and its dynamics. Notions of actor-networks and their dynamics (e.g. Enserink and Mayer 2001, Hermans 2005, Klijn 2007) are closely related to what we here consider as 'governance style'. Within actor-networks multiple actors gather around a policy issue in which they all have their own particular interests, role and means of influence. Actors can enter or leave the policy process and multiple actors can co-operate or form alliances to gain influence or collect resources. The characteristic of multiple actors each with their own means of influence throughout different stages of the policy process is recognizable in governance styles as well. In fact, a governance style evolves from multi-actor involvement in policy and project processes as a whole and represents the joint impacts on the policy process of all potential actors. Governance styles generally are partly constructed and institutionalized (e.g. through interdisciplinary teams, government agencies) and partly evolving within the multi-actor context of particular policy and project processes.

We assess the impacts of the governance styles on the achievements in terms of river restoration in three steps. First, the effects of the different river restoration plans are identified. Second, governance aspects of the projects are identified and characterized in terms of the instance, degree and means of involvement of different actor types. Finally, a cross-comparison among the three plans provides insight on the relationships between the governance styles applied and the outcomes achieved.

The River Restoration Projects and their Effects
The three policy plans compared in this paper include the Integriertes Rhein Programm in Germany, Plan Loire Grandeur Nature in France and Waalweelde in the Netherlands. The effects of interest for this study are the actual implementation of the larger plan in multiple small projects, identified follow up in other projects and plans, and changes in the initial design. We selected this level of assessment so

that the major differences between the policy plans become apparent and the potential impact of the governance styles can be distilled. At the international level, the plans take place against the shared backdrop of European directives.

The Integriertes Rhein Programm (IRP) was developed for the Rhine section in Baden-Wuerttemberg, Germany (Gewässerdirektion Südlicher Oberrhein/Hochrein 1997). As a result of the construction of weirs, floodplain wetlands were cut-off from the river and flood defence levels were reduced in this stretch of the Rhine. According to the plan, 13 former floodplains would be reconstructed as retention areas. However, the first implementation in 1989 had major negative ecological impacts on the existing flora and fauna. Strong societal reaction to these impacts forced policy makers to adapt their strategy of direct implementation of the thirteen retention areas, and to integrate ecological enhancement into their planning using an 'Ecological Floods' concept. The 'Ecological Floods' concept encompasses regularly (5-6 times per year) allowing small inflows to the retention area so that the flora and fauna can adapt to near-natural conditions (Gewässerdirektion Südlicher Oberrhein/Hochrein 1999). After the first tests of this concept with positive results from an ecological point of view (in the Altenheimer Polder), it was decided that this strategy should be applied to all other retention areas. The IRP was approved in 1996. However, implementation in the other areas has been delayed owing to the opposition that has arisen, primarily from citizens.

Plan Loire Grandeur Nature (Etat, Agence de l'eau, EPALA 1994), covers the entire Loire basin in France. The first plan was approved in 1994 and it was initiated by local authorities who responded to a nationally developed plan for a dam in the Loire. The main focus of the plans is to increase flood defence levels, thereby preserving the relatively natural character of the river and the associated cultural heritage. The main methods include strengthening and maintening the dikes, but also vegetation management, evacuation plans and spatial (re-)planning. Plan Loire shows clear follow up in terms of programs, since the third plan has recently been approved for the period 2007-2013 (Comité de bassin Loire Bretagne, 2006). The planning can be considered coherent since the entire river basin is included, but it also highly aggregated with few projects specified concretely. Actual project implementation occurs on an ad hoc basis. Initial steps are currently being taken to develop comparable plans for other French river basins.

WaalWeelde is a regionally and locally developed plan for the river Waal in the Netherlands with a focus on enhancing flood defence levels, the spatial quality and the regional economy (Innovatienetwerk and WINN, 2007). It forms an alternative to the 'PKB Ruimte voor de Rivier'; a nationally developed policy plan for increasing flood defence levels and spatial quality (ministry of Transport, Public Works and Water, 2007). It was developed in response to the PKB, because the regional and local actors viewed this less integrated, national plan as a missed chance for truly and specifically improving the quality of their river area. During its development it had no policy status, but after completion of the planning phase it has been introduced into the policy trajectory. The expectation is that it will function as an add-on to the PKB.

Governance styles

In describing governance styles, we assess the instance, degree and means of involvement of different types of actors throughout the policy process.. These include the professional actors, often represented by governmental agencies orientated around the different disciplines (e.g. state forestry), political and administrative authorities often representative of the prevailing political power, the public, including NGO's and citizens, and private organisations (e.g. industry). All of these actors can be involved in the policy process, but their involvement can change over time. For instance, some actors only become active at the moment of implementation, while others are active in the planning stages. In addition, the extent to which they are involved can differ; generally this is related to their interests and roles. Actors also have different means and channels through which they are involved. These three aspects determine the influence of each type of actor on the process as a whole. A governance style therefore does not result from a single-actor action, but evolves from multi-actor involvement in policy and project processes as a whole.

Assessment of the three governance styles

The governance style for each of the three projects are described in tables 1 to 3 in terms of the instance, degree and means of involvement of four categories of actors, that is the p_4i_3 matrix format.

Colours are used in the matrices ranging from green to orange to red, representing high to moderate to low involvement. The matrices should be glanced at as a whole to grasp the governance style.

Governance style (p_4i_3)	**Instance of involvement**	**Degree of involvement**	**Means of involvement**
Professional	Planning and implementation	Large	Interdisciplinary organisation Knowledge Formulating the plan
Political	Ministries: Planning Local politicians: Implementation	Large Limited	Coordination Confidence of minister Transfer plan into local plans Political power
Public/ NGOs	Implementation	Initially limited, later moderate	Media Politics Public participation
Private	Not	Absent	None

Table 1: The p_4i_3 governance style characterising the IRP

Governance style (p_4i_3)	**Instance of involvement**	**Degree of involvement**	**Means of involvement**
Professional	Planning and implementation	Large	Interdisciplinary team (later disbanded) Plan formulation Knowledge Representation
Political	Planning and implementation	Large	Representation Plan formulation Plan approval Political power Distribution finances
Public/ NGOs	Implementation	Small	Response to planning Elections
Private	Not	Absent	Elections

Table 2: The p_4i_3 governance style characterising Plan Loire

Governance style (p_4i_3)	**Instance of involvement**	**Degree of involvement**	**Means of involvement**
Professional	Planning and implementation	Moderate	Knowledge Advisory Testing
Political	Ministries: planning Regional/local bodies: Planning and Implementation	Ministries: Limited Regional/local bodies: Large	Ministries: compliance auditing Regional:/ local plan development
Public/ NGOs	Planning and Implementation	Moderate	Idea introductions Forum discussions Workshops
Private	Implementation	Moderate	Public-Private partnerships

Table 3: The p_4i_3 governance style characterising WaalWeelde

The governance styles of the respective cases can be characterized as professional-political on a national level (IRP, Germany), political through different policy layers supported by professionals (Plan Loire, France), and local politics in co-production with public, private and professional actors (Waalweelde, Netherlands). The styles evolved owing to existing institutions' (e.g. ministries develop policies) increasing beliefs in interdisciplinarity (e.g. leading to interdisciplinary teams in IRP and Plan Loire), reactions to developing policy (e.g. development regional board in Plan Loire and bottom-up co-production in WaalWeelde), in combination with actor reactions and ideas of good governance (e.g. public participation).

Cross-comparison: the impact of governance styles from an actor-network perspective
The assessment and characterization of the three governance styles allows us to determine their impact on the river restoration projects. We distinguish the following explanatory variables: the connectedness of actors and issues, resource structures, policy learning and the societal context.

Connectedness and level of involvement of actors and issues
Within a policy process, the connectedness and level of involvement of actors and issues can determine their degree of influence. With connectedness is meant continuous interplay and meaningful interaction amongst different actors whereby individuals can form a bridge and are trusted and heard in multiple worlds. Early and continuous involvement of different actors and issues seem to enlarge the possibility of effective implementation of the policy, because many actors can benefit from the involvement, ideas can easily be communicated and received and policies can be co-produced.

The IRP can be characterized as initially coherently planned within the sphere of the professional actors. The institutionalisation of interdisciplinarity in the form of multi-disciplinary teams guaranteed a connectedness amongst the professionals, but also ensured an internal rather than external focus. This made the plan vulnerable to societal developments such as changing value systems. This manifested itself as an increasing value placed on ecology and increasing tension between the involved political and professional actors and the public.

Plan Loire was developed by a wide range of actors, ensuring a high level of connectedness amongst both the professional and regional political actors. Over time, the interdisciplinarity has declined, while the political connectedness has persisted. The relationship of the plan with the public is only actualised at the moment of implementation, that is when a broader public is affected. Their response to date varies from ignorance of the plan towards neutrality. These factors provide a partial explanation for the difficulties that Plan Loire Grandeur Nature is experiencing with project implementations.

Waalweelde is a plan developed from the bottom-up, with a high degree of involvement of public, private and local and regional political actors. However, the connection to the national policy levels was limited initially. The entrance into the policy trajectory, therefore, represents a second step instead of forming an integral part of the planning. The existing strong connectedness of the involved actors to the issues augers well for the transition to the national level, but this has yet to happen. To date, the professional actors have only played a role in testing the compliance of the plans with national goals and evaluating the effects. Implementation at the local and regional level is expected to proceed smoothly, given the existing actor relationships.

Resource structures
The availability of resources strongly influences the structure of the plan and the generic importance accorded to it. Within the Loire basin relatively few people work in river management, making ambitious planning and resourcing difficult. Furthermore, in Germany and the Netherlands, funds are allocated to the achievement of specific river management goals expressed in the plans. Broader societal goals or public values are often not included. The plans are then implemented via the local and regional authorities with little eye for potential conflicts in the societal sphere. WaalWeelde is an exception to this rule at the moment, because it was developed bottom-up and has as yet no political status. Financial support has yet to be secured although further plan development is envisaged to occur with the help of public-private partnerships. In France, in contrast, projects are developed based on the annual availability of funds, explaining the ad hoc nature of project implementation.

Policy learning
Due to actor-interaction, plan development and implementation, knowledge can be developed and actors can learn (Sabatier, 1988). This learning includes developing a better understanding of the physical system, but also the social learning about the behaviour and intentions of other actors and societal reactions to plans and projects. Based on these new insights, actors can alter their perspectives, goals, develop their network and even adapt the plans. This is demonstrated explicitly in the German case, where citizens were concerned about the threats to their quality of life associated with the planned retention area reconstruction and expressed this to government authorities. As a result, the political actors can no longer ignore them as a relevant actor and the involved actor-network has to expand.

Societal context
Although not specifically mentioned within the assessment of governance styles, the general societal context within which the policy process occurs provides an underlying explanatory factor for project

effectuation and can exert a major influence on actors and planning. For instance, low population densities can allow nature development to occur whereas the geographical location can make the urgency for flood defence more or less dominant. In France, population densities are lower leaving more room for nature development. In addition, the last major flood in the Loire Valley occurred in the 1850's and the general public has no sense of urgency regarding flood defence. This is in stark contrast to the Netherlands, where the necessity for flood defence remains an enduring priority.

The Zeitgeist represents the dominant thought frame, represented in policy preferences at a particular period of time. Currently, this is safety from flooding in the Netherlands, but with room for ecological enhancement. This represents a modification of the thought frame "safety from flooding at all costs" that has predominated for centuries. WaalWeelde fits within the Zeitgeist of prioritising safety from flooding, but taking ecology into consideration. In Germany, the Zeitgeist is comparable, but at the time of the initial plan development was less dominant (1990s) and as such the plan became a little outdated. In France, the preservation of the cultural and natural heritage is of great importance and the Plan Loire Grandeur Nature is an important representative of this spirit.

Discussion and conclusion

The p_4i_3 matrix proved a useful tool in assessing the governance styles prevailing in France, Germany and the Netherlands. By linking insights on institutionalized actor participation to the environmental achievements of the projects, the impacts of governance styles on integrated river management planning were evaluated. Four explanatory factors were distinguished, namely: connectedness and level of involvement of actors and issues, resource structures, policy learning and societal background. These insights hold implications for the design and implementation of future river management projects.

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