

# UFZ-Discussion Papers

7/2010 – GoverNat 11, June 2010

## WP2: Assessing multi-level activities in Water and Biodiversity Governance

### Report

Paula Antunes\*, Patricia Quillacq, Felix Rauschmayer, Rui Santos\*, Nuno Videira\*

\*Ecological Economics and Environmental Management Centre (ECOMAN)

With contributions from

Catrin Egerton, Oliver Fritsch, Cathy Jolibert, Cordula Mertens, Mireia Pecurul,  
Matteo Roggero, Minna Santaoja, Raphael Treffny, Sonja Trifunovova

## **“Multi-level Governance of Natural Resources: Tools and Processes for Water and Biodiversity Governance in Europe” (GoverNat)**

### **Objectives**

The **overall objective** of GoverNat is to develop new solutions for multi-level environmental governance and to facilitate their use by decision makers in an enlarged EU. The **central research objective** is to test the hypothesis that certain participatory processes and analytical decision tools are particularly useful for improving multi-level environmental governance. **Specific research objectives** therefore address the enhanced understanding of multi-level governance of natural resources, the development of methods of public and stakeholder participation to be used in such contexts, the effective utilisation of specific analytical decision tools in multi-level governance, and the reflective evaluation of such use. These four tasks are necessarily interdisciplinary. The **central training objective** is to give 9 doctoral and 3 post-doctoral fellows an interdisciplinary training 1) in research on environmental governance, particularly of biodiversity and water, in Europe, and 2) in designing legitimate and effective solutions for communication between policy makers, scientists and the public in science/policy interfaces.

### **Consortium**

1. UFZ – Helmholtz-Centre for Environmental Research, Germany (F. Rauschmayer);
2. ECOMAN - Ecological Economics and Management, Lisbon, Portugal (P. Antunes);
3. NERI - Danish Environmental Research Institute, Copenhagen, Denmark (M. S. Andersen);
4. SRI - Sustainable Research Institute, Leeds, United Kingdom (J. Paavola);
5. ICTA – Institute for Environmental Science and Technology, Barcelona, Spain (S. van den Hove);
6. CSWM – Centre for the Sustainable Water Management, Lancaster, United Kingdom (W. Medd);
7. UStutt - Institute for Sociology, Stuttgart, Germany (O. Renn);
8. IF - Institute of Forecasting, Slovak Academy of Sciences, Bratislava, Slovak Republic (T. Kľuvánková-Oravská);
9. IELM-SIU - St. Istvan University, Budapest, Hungary (G. Pataki);
10. IREAS - Institute for Structural Policy, Slovak Republic (V. Chobotova).

### **Characteristics**

- EU Marie Curie Research Training Network with 9 doctoral and 3 post-doc fellows
- Duration: 4 years (10/06 – 9/10)
  - Doctoral fellows: 4/07-6/10
  - Post-docs: 7/07-1/10
- 10 partners and several praxis affiliates in 9 European countries
- Coordination: Helmholtz-Centre for Environmental Research – UFZ (Dr. Felix Rauschmayer)
- Total contribution of European Commission: 2.4 Mio €

### **Contact**

Dr. Felix Rauschmayer coord.governat@ufz.de  
Helmholtz - Centre for Environmental Research – UFZ OEKUS - Division of Social Science  
Postfach 500136 04301 Leipzig Germany  
Tel.: ++ 49 - 341 - 235 2074 Fax: ++ 49 - 341 - 235 1836 <http://>

Links : water and biodiversity, participation and decision tools in a governance perspective

## Content of the paper

|   |           |
|---|-----------|
| <b>Summary.....</b>   | <b>4</b>  |
| <b>1. Introduction .....</b>                                      | <b>6</b>  |
| 1.1 GoverNat Objectives .....                                     | 6         |
| 1.2 GoverNat Working Packages and Working Package 2 .....         | 6         |
| <b>2. Participation in Water and Biodiversity Governance.....</b> | <b>7</b>  |
| <b>3. GoverNat Framework for Past Cases Analysis .....</b>        | <b>9</b>  |
| <b>4. Presentation of the cases described by fellows .....</b>    | <b>12</b> |
| <b>5. Analysis of the cases .....</b>                             | <b>18</b> |
| 5.1 Issues addressed and concepts of participation .....          | 18        |
| 5.2 Platforms and analytical tools.....                           | 20        |
| 5.3 Multi-level governance .....                                  | 20        |
| 5.4 Biodiversity and water governance .....                       | 22        |
| <b>6. Conclusions.....</b>  | <b>22</b> |

## Summary

This report constitutes the main deliverable of WorkPackage 2 of GoverNat, “*Assessing multi-level activities in water and biodiversity governance*”, dealing with an assessment of state-of-the-art European water and biodiversity governance, based on the analysis of a series of case-studies developed by GoverNat fellows. The cases, all dealing with participation in multi-level governance of water and biodiversity in Europe, were analysed with the support of the framework for analysis and evaluation of multi-level participatory processes developed in GoverNat. A free narrative, describing the main aspects of each case was also prepared.

A total of 24 cases were analysed. Information for this analysis was gathered either directly by the fellows (e.g. through interviews) or relying on previously published materials. The cases should enable the test of the scientific hypothesis and the fundamental premises of the GoverNat project: that participatory processes are positive elements in new modes of environmental multi-level governance.

The cases described showed a high degree of variability in several aspects such as geographical location, territorial scale, characteristics of the resource at stake, typology of problem described, and characteristics of the decision-making process and corresponding outcome. The different backgrounds of GoverNat fellows, which lead them to use different “lenses” when looking at the cases, introduced yet another level of variability in the analysis of the cases.

The analysis had two main objectives: (1) a learning purpose – to provide GoverNat fellows with an opportunity to work with the concepts that are central to the issue of multilevel governance of natural resources; (2) the development of a deeper understanding of water and biodiversity governance.

The first objective was achieved by the involvement of fellows in the identification of cases and in their analysis applying the adopted theoretical framework. The analysis of the cases enabled the identification of common patterns in terms of issues addressed and concepts of participation embraced, on the (lack of) use of platforms and analytical tools to support MLG participatory processes and on the differences and similarities between biodiversity and water governance processes. In any way, the comparison and generalization of lessons from the cases should be taken with great caution, since it is difficult and uncertain to generalize any finding and to draw from that any kind of causal relationships between situations and results.

## 1. Introduction

### 1.1 GoverNat Objectives

The main scientific objective of the GoverNat project is to contribute to the development of new solutions for multi-level environmental governance and to facilitate their use by decision makers in an enlarged EU. The researchers engaged in GoverNat test the general and departure hypothesis that certain participatory processes and analytical decision tools are useful for improving multi-level environmental governance.

GoverNat aims to bring together the latest ideas from economics, political science, law, sociology and philosophy to bear on the four relevant interdisciplinary research fields: governance, participation, decision analysis, and the design, implementation and evaluation of collaborative management of natural resources (Rauschmayer et al., 2007). The scientific results to be expected are:

1. Systematic analysis of **multi-level governance** of water and biodiversity in Europe and the generalisation of obtained lessons to the governance of all natural resources;
2. Evaluation of instrumental and normative roles of **participation** in environmental decisions and case-specific development of participatory processes for multi-level governance solutions;
3. Evaluation of suitability of **analytical decision tools** for use in conjunction with participatory processes, and their adaptation to selected cases of multi-level environmental governance;
4. Systematic **evaluation** of the combined use of participatory and analytical solutions in selected cases of natural resource management.

The central training objective of GoverNat is to give 9 doctoral and 3 post-doctoral fellows an interdisciplinary training in: 1) research on multilevel environmental governance, particularly of biodiversity and water, in Europe, and 2) designing legitimate and effective solutions for participation and communication between the policy makers, scientists, and other involved and affected parties.

Researchers in GoverNat seek to analyse, design, implement, support and evaluate participatory decision processes and decision tools, considering the legal, institutional, cultural and natural specificities of the studied cases, to assess their impact on the governance of natural resources (Rauschmayer *et al.*, 2007).

### 1.2 GoverNat Working Packages and Working Package 2

GoverNat is organized into five Working Packages (WP): WP1 - Analysing Multilevel Water and Biodiversity Governance in their Context; WP2 - Assessing multi-level activities in water and biodiversity governance; WP3 – Evaluating and improving decision-making processes; WP4 – Empirically applying refined tools and processes in specific case studies and WP5 – Conclusion and dissemination.

Working Package 1 “*Analysing Multilevel Water and Biodiversity Governance in their Context*” was aimed synthesising disciplinary perspectives on water and biodiversity governance. WP1 report (Wesselink, A., 2008) examined closely the content of 49 in-depth consultations carried by both early stage and experienced fellows under supervision of senior

scholars. Consultations were done through a form of interviews to participants of environmental governance processes, mostly stakeholders and decision makers involved in past cases.<sup>1</sup>

WP2, “*Assessing multi-level activities in water and biodiversity governance*”, was aimed at providing a deeper understanding of water and biodiversity governance through the analysis of a series of case-studies. The tasks to be performed in this WP included:

1. Selecting cases for further analysis through in-depth interviews - a first set of cases were selected by the fellows in co-operation with non-research institutions. The experienced researchers were responsible to ensure the scientific fertility of the cases.
2. Analysing cases within the non-research institutions along the analysis framework - the understanding of the cases was deepened in visits at praxis affiliates. The GoverNat framework should be used to structure the insights.
3. Integration of case studies within wider water and biodiversity governance - the representativeness of the selected case studies for the fields of water and biodiversity governance was assessed, and missing issues highlighted.
4. Insert assessment knowledge for project integration.

This report constitutes the main deliverable of WP2, dealing with an assessment of state-of-the-art European water and biodiversity governance.

## **2. Participation in Water and Biodiversity Governance**

By signing in 1998 and ratifying in 2005 the Aarhus Convention, the European Community formally recognized the importance of public participation in terms of information, consultation and access to justice in environmental matters. The convention was signed by all EU member states but not yet ratified by all, let alone implemented.

Participation is recognized as a central element for general governance orientation in the EU, as illustrated by the White Paper on Governance in which participation appears as one of the five “principles of good governance” – together with openness, accountability, effectiveness and coherence (European Commission, 2001). In the environmental domain, participation was visibly introduced in the 1993 Fifth Environment Action Programme (European Communities, 1993). In its successor – the 2002 Sixth Environment Action Programme – participatory environmental governance has been fully taken on board through systematic inclusion (European Communities, 2002).

The concept of water governance, broadly defined as the “range of political, social economic and administrative systems that are in place to develop and manage water resources and the delivery of water services at different levels of society” (Rogers and Hall, 2003), has been uptaken by the water resources management community. Although context plays a central role in the conceptualization and operationalisation of water governance in a given region/country, a water governance framework must in all cases include policies to enable participatory water management, capacity to engage in the policy process and the ability to negotiate among stakeholders (Currie-Alder *et al.*, 2006; Antunes *et al.* 2009).

The European Water Framework Directive (WFD) (Directive 2000/60/EC) was published in October 2000 with the purpose of establishing the overall framework for water resources governance in Europe. The key objective of the WFD is to achieve a “good water status for all

---

<sup>1</sup> The consultations were conducted in the format of short semi-structured interviews according to the consultation guidelines developed by the senior researchers.

European waters” by 2015 (art. 4). The Directive establishes the following key aims (European Commission, 2007):

- expanding the scope of water protection to all waters, surface waters and groundwater;
- achieving "good status" for all waters by a set deadline;
- water management based on river basins;
- "combined approach" of emission limit values and quality standards;
- getting the prices right;
- getting the citizen involved more closely;
- streamlining legislation.

The WFD defines the river basin as the geographical unit for water resources planning and management and asks for the prior evaluation and authorization of all new river basin interventions. For each river basin district - some of which will traverse national frontiers - a "river basin management plan" will need to be established and updated every six years. Participation in river basin planning processes is a key requirement of the WFD (Article 14):

1. Active involvement of all interested parties in the implementation of the Directive shall be encouraged by Member States, in particular in the production, review and updating of the river basin management plans;
2. Each river basin district shall ensure that the public (including users) has access to information and is consulted by the authorities regarding the timetable and work programme for the production of the plan, the interim overview of the significant water management issues in the river basin, and the draft copies of the river basin management plan;
3. Authorities shall report back on how the consultation process affected the formulation of the river basin management plan.

This call for increased participation in water governance is not exclusive of EU policy. In fact, governments in different parts of the World have recently acknowledged the new challenges associated with water governance and have undergone important reforms in their water resources management policies (Antunes *et al.*, 2009).

The legal frame for European biodiversity policy, though, is mainly conceived without public or interest group participation (Rauschmayer *et al.* 2009). On the paper, the selection criteria for the Natura 2000 sites were based on ecological and scientific arguments. In practice, selection of the sites mostly happened in an informal participatory way, addressing mostly local economic interests before reporting the sites. Lack of formal right to participate in processes such as the designation of Natura 2000 sites resulted in a number of conflicts and costly court processes (Paavola, 2004), and was one factor driving towards explicit embracing of participation as part of multi-level environmental governance (Rauschmayer *et al.*, 2009).

The multi-level aspect of the WFD is evident, and the problem of upstream/downstream riparian water users has been one of the starting points of neo-institutional economics. As river basin boundaries do not follow political boundaries, a successful integrated management of water resources at the river basin scale often cannot be achieved by local or national action alone. Throughout Europe there are many international rivers, and their management is impeded by differences of interests and of governance structures between the member countries. This applies even more to river basins integrating states not being EU members.

The multi-level aspect of biodiversity governance has, until now, been framed differently, and focuses more on the apparent contradiction of a global need for biodiversity conservation with a local need for using ecosystem services, often speeding up the decline of biodiversity. As the local power on deciding on the existence of biodiversity is largely uncontrollable, multiple



forms of practical participation mainly in the agro-biodiversity field have been institutionalised. The combination of local power with often incoherent European, national, and regional regulations, which target biodiversity conservation or have an impact on it, such as agriculture, transport, housing policies, accentuates the multi-level aspect of governance (Rauschmayer *et al.*, 2007).

### **3. GoverNat Framework for Past Cases Analysis**

In order to ensure integration across fields of environmental governance, GoverNat adopted a common framework for the analysis and evaluation of water and biodiversity governance processes in different cases in Europe. This framework was developed by GoverNat fellows, in an iterative and participatory process, taking as a starting point the framework proposed in Rauschmayer *et al.*, 2007.

The GoverNat framework (Figure 1) includes two main stages:

- Analysis, that is used to systematically characterize and assess experiences in multi-level governance of water and biodiversity. Traditional disciplinary analyses of natural resources and of their use by stakeholders are applied in a first instance. The analysis step then considers whether and to which degree the resources attributes are reflected in multi-level decision making structures and considered in decision processes.
- Evaluation, where participation, analytical decision tools and their combined use in multi-level governance of natural resources are evaluated.

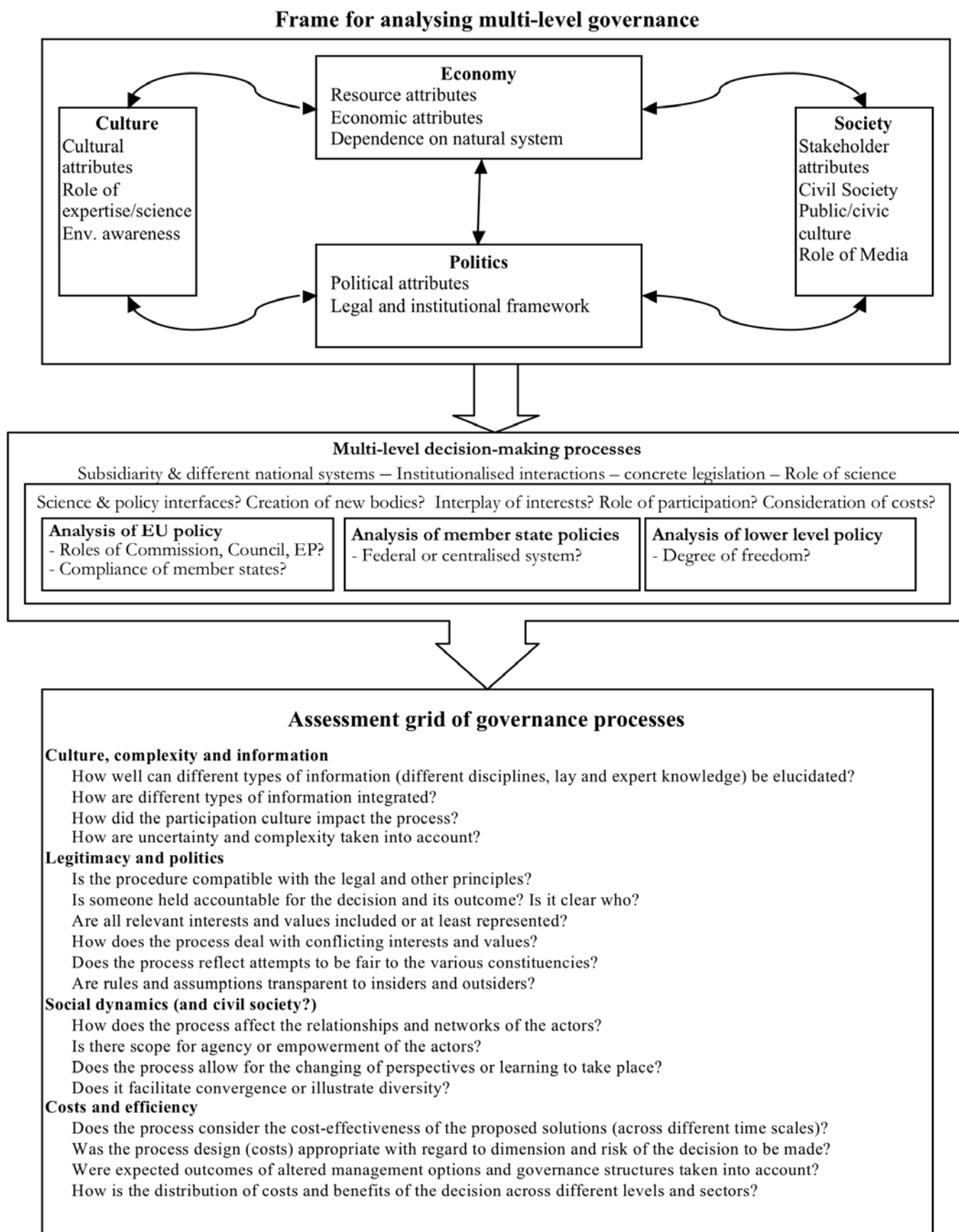


Figure 1 – GoverNat methodological framework for analysing and evaluating multi-level governance processes

## **Definitions**

### **Economy**

- *General*: state and trend of economic development, unemployment, economic diversity
- *Resource attributes*: scarcity – divisibility – excludability – mobility – irreversibilities – uncertainty
- *Economic characteristics*: Economic instruments, conflicting use of resources, property rights, allocation of resources, cost/benefits of different actions (including no-action)
- *Dependence on natural system*: the degree that the economy is linked with the natural resources

### **Society**

- *General*: state and trend of social coherence, quality of life
- *Stakeholder characteristics*: number – heterogeneity – socio-economic and political status - interests & relationships, world view and values, age & gender
- *Civil Society*: combination of government, economy, science, and NGOs
- *Public/civic culture, role of media*

### **Politics**

- *General*: state and development of legal and institutional framework
- *Political characteristics*: vertical and horizontal governance, nature of political system with respect to participation, formal and informal power (lobbying, political culture – deliberative, authoritarian, adversarial, corporatist), organizational culture (how administration is working), regulatory culture
- *Relevant Policy sectors-areas*: e.g agriculture, tourism etc

### **Culture**

- *General*: role of tradition, religion, arts
- *Cultural characteristics*: perception of nature, aesthetic value, natural heritage, participation culture, cultural importance of nature
- *Role of expertise/science*
- *Env. Awareness and values*

### **Nature**

- Natural systems and their interactions
- Ecosystem services
- Distribution in space and time

The GoverNat framework uses a set of criteria developed for process-oriented evaluation of combined participatory and analytical approaches (Wittmer *et al.* 2006 and Figure 1) which focuses on:

- the way in which information on natural systems enters the process (Pullin *et al.* 2004),
- institutional, legal and ethical legitimacy;
- social dynamics (Schusler *et al.* 2003);
- costs of decision processes.

Governance outcomes such as changes in natural systems are often immeasurable due to involved time lags, unclear causal links, and ill-identified goals (Conley and Moote, 2003). Therefore, only expected outcomes and associated uncertainties can often be used for evaluation. Using a process-oriented frame of analysis (Figure 1), GoverNat:

- a) identifies differences in involved natural and institutional systems and

- b) tests the hypothesis that certain combinations of analytical and participatory processes improve multi-level governance.

#### **4. Presentation of the cases described by fellows**

The framework for analysis was translated in a template (see Annex I) for data collection that was used by all GoverNat fellows to structure the information collected for the case studies. This template was developed with the purpose of facilitating the task of comparison among cases and reflecting the common theoretical framework of the project. A free narrative on each case was also prepared.

A total of 24 cases were analysed by the fellows. Information for this analysis was gathered either directly by the fellows (e.g. through interviews) or relying on published material. Table 1 summarizes some of the characteristics of the cases.

The cases should theoretically give the occasion to test the scientific hypothesis and the fundamental premises of the GoverNat project: that participatory processes are a positive element in new modes of environmental multi-level governance.<sup>2</sup>

---

<sup>2</sup> “Participatory processes are a key element in new modes of governance because they contribute to legitimacy and effectiveness of governance solutions (Fiorino 1989; Stirling 2006; Hajer 2003) and can lower the costs of policy implementation. Analytical decision tools can in turn reconstitute the science/policy interface by making explicit different forms of uncertainty, which characterise complex environmental systems (Stern and Fineberg 1996; NRC National Research Council 1996). There is substantial evidence that these methods can support new resolutions to environmental management challenges but their uptake remains low” (Rauschmayer and Wittmer 2006).

Table 1 – Case studies analysed by GoverNat fellows

| <b>Case name &amp; location<br/>Author<br/>Duration</b>  | <b>Issues addressed</b>   | <b>Type of participation<br/>Rationale for participation</b>  | <b>Multi-level governance aspects</b>   | <b>Methodology<br/>Number of people involved</b>   | <b>Outcome (decision &amp; others)<br/>Responsible for final decision</b>  |
|--|---|---|---|--|--|
| <b>1. Decision-making process in handling the mass increase of bark beetles in the Bavarian Forest National Park, Germany</b><br>Cordula Mertens<br>1970 -   | Biodiversity<br>Bark beetles management<br>Conservation philosophy<br>Population acceptance | Spontaneous participation:<br>popular protest to the expert choice of nihilist management of forest |   | Not known  | Social learning  |
| <b>2. The European Pilot project in the Ribble Valley for gathering information on participation for WFD implementation, England</b><br>Raphael Treffny<br>2003-2006                                 | Water<br>Natural resource management  | Pilot project<br>WFD implementation<br>Rationale: test use of participatory methods                 | EU (WFD); regional (River Basin Authorities)  | Workshops<br>Visioning exercises<br>Scenario building<br>Choice to favour stakeholders but not public at a large<br>50 people for the largest workshop; 88 together for 3 minor workshops<br>1.25 million inhabitants in the basin | Vision statement for the river basin<br>Test-bed for participatory exercises in river basin management<br>Environmental Agency |
| <b>3. Determination of High-Tatras destiny, Slovakia</b><br>Sonja Trifunovova<br>2004-   | Biodiversity<br>Forest management<br>Foresters vs general population                        | Spontaneous participation   | International (IUCN Category II park); EU (Natura 2000); National (National Park Administration and State Forests of TANAP) | Not conceptualized participation<br>Workshops<br>Not known   | No specific outcome  |
| <b>4. Amateur naturalist participation in UK biodiversity action planning (coordination of the survey and monitoring of BAP cryptogamic plants and invertebrates), UK</b><br>Minna Santaoja<br>2000- | Biodiversity<br>Gap knowledge<br>Information  | Amateur-volunteer collection of field information<br>Biodiversity convention objectives fulfilment  | International (Biodiversity Convention); National (UK BAP)  | Hierarchical design of collection campaigns<br>Implemented by different groups<br>Not known  | Data collected<br>Partnerships public/ civil society   |
| <b>5. Water and biodiversity governance: agro-environmental measures to enhance population of Little</b>   | Biodiversity & water<br>Infrastructures<br>Agri-environmental measures                      | Pilot participatory project<br>Improvement of management<br>Avoidance of conflict after             | EU (Habitats Directive); National and Autonomous Region (Spain and Catalonia);  | 70.000 inhab and 16.000 farmers are affected<br>Pilot project involves 18 farmers holding 95 ha of   | Preliminary results show that this could be a win-win situation as regard to production and                                    |

|   |   |   |  |  |  |
|---|---|---|--|--|--|
| <b>(Tetrax tetrax) in open farms and grassland of Lleida (Spain)</b><br>Mireia Pecurul  | Land-use<br>Water scarcity  | conflicting SAC designation   | Local farmers  | dryland  | conservation. However this project would not assess the change in behaviour and perception of landowners towards biodiversity.                 |
| <b>6. FRAP Project decision-making process: Lessons from the Sado Estuary Portugal</b><br>Cathy Jolibert<br>2003-2006   | Biodiversity<br>Conflict reconciliation   | Consultation<br>Joint development of reconciliation strategies  | EU (Nature protection; research project);<br>National; Local                           | Consultation workshops<br>Individual meetings  | Social learning<br>Improved communication  |
| <b>7. Pilot project in the Hase River, Germany</b><br>Oliver Fritsch<br>2003-2007   | Water<br>Conflict of use of natural resources<br>Agricultural practices                                   | Pilot project<br>WFD implementation<br>Developing a shared understanding of the region's problems and challenges and developing scenarios | EU (WFD); Regional and local   | Scenario building<br>Group-model building<br>Actors platforms and focus groups<br>Catchment covers 3000 sqm<br>20-25 people involved in pilot exercise                   | No deliberation taken<br>Improved social relationships   |
| <b>8. Mobile gates for flood protection in Venice, Italy</b><br>Matteo Rogero<br>1966-  | Water<br>Infrastructure to cope with natural hazards<br>Cultural heritage                                 | Consultation in EIA process context<br>Non-formal: protest  | National (Central government) and Local (Municipal)                                    | Not known<br>Concerned population: inhabitants of the Venice lagoon + visitors   | Adoption of the project and building of the gates<br>State   |
| <b>9. Elaboration of the Monfurado Natura 2000 management plan, Portugal</b><br>Catrin Egerton  | Biodiversity<br>Reconciliation of antagonist positions<br>Agriculture vs biodiversity<br>Land use problem | Stakeholder involvement (mostly landowners and scientists)<br>Improved biodiversity management plan                                       | EU (Habitats Directive);<br>Local (Municipality)                                       | Stakeholder meetings<br>2 municipalities; 24000 ha<br>500000 inhabitants in Alentejo   | Site management plan<br>Cooperation among actors (limited)<br>Municipality   |
| <b>10. The European Pilot Project in the Ribble Valley for gathering information on participation for WFD implementation</b><br>Raphael Treffny<br>March-April 2008 | Water<br>WFD implementation<br>No true conflict about resource. Increasing pressure.                      | Pilot project<br>10 workshops by invitation<br>Public consultation exercise was done beforehand<br><br>Obtaining information              | EU (WFD); Regional (River Basin)   | 120 people attended the workshops (which were invitation only exercises and therefore did not get attention from the general public)<br>1.25 million people in the basin | Synthesis report listing possible measures.<br>Final decision to be made by the Environmental Agency internally and the communal liason pannel |
| <b>11. Resource use conflicts in the Kiskunság National Park, Hungary</b><br>Cordula Mertens  | Water and biodiversity<br>Conflict over natural resource use (increase pressure on water and              | No organized participatory process<br>Participation motivated by action-research  | International (Biosphere Reserve and Ramsar sites); EU (Natura 2000 and WFD); National | Focus group meetings conducted by the University in 3 villages   | Possible increased awareness and improved cooperation  |

|  |   |   |  |  |   |
|--|---|---|--|--|---|
| 1975-  | land from human and natural factors)<br>Infrastructure<br>Water scarcity          |   | (National Park Directorate); Local                   |  |   |
| <b>12. Establishment and working of the Unstrut-Leine Basin Forum, Germany</b><br>Oliver Fritch<br>2003-2004         | Water<br>WFD implementation<br>No open conflict.<br>Increasing pressure on water. | Information<br>Consultation/deliberation<br>Improving decision quality and implementation                               | EU (WFD); Regional (River basin authority)           | 3 meetings<br>Roundtable   | Identification of sites for pilot projects  |
| <b>13. The conflict in the implementation of Natura 2000 in South-Western Finland</b><br>Minna Santaaja<br>1994-2003 | Biodiversity<br>Implementation of Natura 2000<br>Land-use conflicts               | Consultation hearings<br>Complaint files in the legal proceedings for public consultation<br>Protests<br>Hunger strikes | EU (Habitats Directive); National; Regional.         | Only national level interest groups were involved in the process   | Compromise between EU demands and land-owners; withdrawal of some areas from the initial proposal. Improved participation in natural resource governance in Finland |
| <b>14. Removal of the Krebsbach Dam, Germany</b><br>Matteo Rogero<br>1995-2007                                       | Water<br>Obsolete infrastructure and land-use<br>WFD                              | Consultation – provision of information to improve decision   | National and local level                             | Public hearings  | Removal of the dam, renaturation of the floodplain, additional flood protection measures  |
| <b>15. Unsuccessful process of PAN Parks establishment, Slovakia</b><br>Sonja Trifunovova<br>1999-                   | Biodiversity<br>Governance  | Deliberative<br>Participation as a requirement for PAN parks establishment  | International (PAN Parks), National, Local           | Stakeholder jury<br>Multi-criteria mapping   | PAN Parks certification has not been achieved yet. Agreement on better and more intensive cooperation.  |
| <b>16. Regional water plan of the Azores, Portugal</b><br>Catrin Egerton<br>1999-2001                                | Water<br>WFD implementation<br>No specific conflict<br>No scarcity                | Legal requirement under WFD<br>Consultation – provision of information to improve decision                              | EU (WFD); Regional (Autonomous Government of Azores) | Workshops, discussions and written comments<br>Population 240000<br>Targeted invitation but open to the public | Approval of the regional water plan<br>Regional Secretary   |
| <b>17. Stakeholders' engagement in the FRAP research project</b><br>Cathy Jolibert<br>2003-2006                      | Biodiversity<br>Conflict reconciliation   | Consultation  | Representatives from different levels were included  | Stakeholder advisory group – interaction with scientists   | Co-production of knowledge  |
| <b>18. Restructuring of management bodies for protected areas in Greece</b><br>Mireia Pecurul                        | Biodiversity  | Functional<br>Establishment of management boards in national parks  | EU, National and regional                            | Open hearings where only board members influence outcome<br>Consensus  | Trust building, cooperation<br>Occasional approval of management plans and objectives   |
| <b>19. The success of Ahtialanjärvi</b>  | Biodiversity  | Participation as a condition  | Local and regional                                   | Informal contacts and  | Cooperation   |

|   |   |  |   |  |  |
|---|---|--|---|--|--|
| <b>lake bird area in Lampäälä,</b><br>Finland<br>Minna Santaoja   | Restoration   | for funding<br>Cooperative governance  | levels; EU funding  | meetings   | Restoration of natural area<br>– good ecological<br>conditions   |
| <b>20. Stakeholder participation on the River Basin District level:</b><br>the Communal Liason Panel in the North West River Basin District of England<br>Raphael Treffny | Water<br>WFD implementation                             | Functional – input to the River Basin Management Plan<br>Consultation and information<br>Advisory panel  | EU (WFD); Regional (River Basin district)                                       | Roundtable<br>16 stakeholders represented<br>1.25 million people in the basin<br>Declining participation | Information for RBMP<br>Networking and information dissemination   |
| <b>21. WFD Pilot Project “Lebendige Sprotte”,</b> Germany<br>Matteo Rogero<br>2003-2007   | Water<br>WFD<br>Restoration of streams                  | Pilot project for WFD implementation<br>Functional<br>Participation focused in specific interventions, rather than on project objectives and means | Regional (Catchment scale) to Local   | Hearings and meetings<br>Individual contacts with stakeholders   | Agreement of a set of measures to be implemented<br>Participatory events were mostly informative.<br>Decisions were taken with landowners and farmers involved on individual basis |
| <b>22. Alqueva Multipurpose Project decision making process,</b> Portugal<br>Catrin Egerton<br>1957-2002  | Water<br>Water scarcity<br>Infrastructure development   | Participation under EIA process requirements   | EU (project funding), Transboundary water agreements; National; Regional; Local | Public hearings<br>Written statements  | Formation of CAIA (accompanying committee)<br>Minor modifications in the project and mitigation measures   |
| <b>23. Participation of stakeholders in the foundation and governance of the Körös-Maros National Park,</b> Hungary<br>Cordula Mertens<br>1980-                           | Biodiversity<br>Land use<br>Agro-environmental measures | Initially spontaneous movement for natural park foundation<br>Functional<br>National park advisory committee - consultation                        | International (Ramsar); EU (funding); National; Local                           | Panel meetings   | Foundation of the national park<br>Cooperation and networking  |
| <b>24. The Austrian Biodiversity Strategy,</b> Austria<br>Mireia Pecurul<br>1997-2008   | Biodiversity  | Functional<br>Consultation<br>No decision-making power   | International (Biodiversity Convention); National; Regional (Lander)            | 50 members in the Biodiversity Commission<br>Declining participation                                     | Multiple activities but not directly connected with the Biodiversity Strategy.<br>Strategy not approved yet.   |



The cases analysed by fellows are extremely varied, from all points of view:

- The geographical location: the case studies concern 11 countries, mainland and islands, but also the polity of the EU (in the FRAP case – No. 17), in all kinds of lands (rural, urban, protected, inhabited, etc...) (see in Figure 2 the distribution of cases across Europe);
- The territorial scale of the cases: ranging from national, regional, or local, based on administrative as well as ecosystemic delimitations, such as the river basin territory;
- The population concerned by the problem on the natural resource and/or by the participatory process concerning the management of such natural resource: from a dozen to thousands or even millions, lay persons, the public at large and/or particular stakeholder groups;
- The type of natural resource at stake: biodiversity and river basin management are two specific categories chosen within the GoverNat framework to analyse the nexus between participatory processes and natural resource management (illustrated in Figure 2 through different colours: blue for water and green for biodiversity), yet they allow for a very large range of situations deserving more precise qualification. Biodiversity conservation may relate to nature conservation in protected areas or in ordinary land with no specific conservation status. It may concern biological processes for agriculture, landscape or recreation. Water management might relate in those cases to coastal waters, inner artificial or natural water bodies or relate to the quality of underground water. Also, in many cases, biodiversity conservation and water governance are linked and the cases relate to both issues (as for instance the Alqueva case, Monfurado, Lleida);
- The typology of the problem at the basis of the case study: from land conflict to European Union directive implementation, from enactment of domestic legislations and policies to spontaneous participation (either negative protest actions or positive with no specific conflict). Several cases deal with the implementation of the Water Framework Directive, focusing mainly on the pilot testing of participatory processes, with the designation of NATURA 2000 sites and with decisions regarding protected areas management. There are also cases related with participation in decisions regarding environmental restoration, preparation of management plans (both in biodiversity and water) and conflicts over use of resources. Two cases focus on the role of participation in science-policy interfaces.
- The characteristics of the decision-making process: the decision-making processes studied by the GoverNat fellows present a great variability of duration but also in nature: from pre-established legal procedures to assess environmental impacts or adopt new legislation to specifically designed participatory processes of consultation using innovative instruments or to decision-making with no participation at all.
- The outcome of the decision-making process: considering the diversity of the decision-making process, it is logical that the outcome varies as well. However, in the context of that comparative work, maybe this is one of the criteria that varies less:
  - the final decision: in many cases, the final outcome is a non formal decision, or even what we could call a ‘non-decision’, in many others we have regular administrative or legal decisions adopted by elected public authority, entitled/competent public administration or legislative power.
  - other outcomes: what is more relevant among the 24 cases studied concerns social learning, which seems to be common to almost all of them.
- The point of view of the researcher: GoverNat advocates a strong multi-disciplinarity to approach participation and enhance its positive effects on nature governance. GoverNat fellows therefore represent a multitude of points of view: sociology, economy, geography, forest engineering, ecology, political science, environmental science, education science. However multidisciplinary research or interdisciplinary research is not a well defined path and, in this case, has produced a high heterogeneity of answers concerning exactly same

questions on the pre-defined questionnaire, for example regarding the nature attributes. Furthermore, the GoverNat fellows come from different countries and cultural backgrounds, mostly analysing cases in still other countries than those of their origin. Finally, the main aim of Marie Curie Research Training Networks is that early stage researchers qualify by writing PhD theses. This translates, especially in a multidisciplinary network, into different scientific interests and perspectives.

## Distribution of cases in Europe

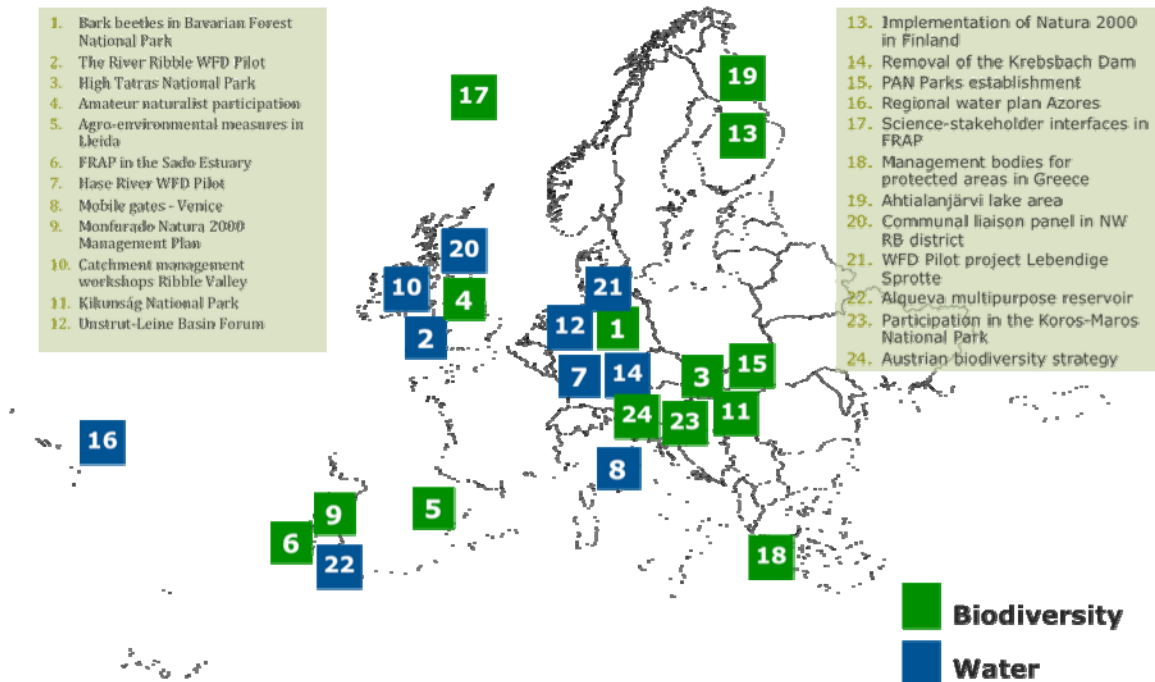


Figure 2 – Geographical distribution and main focus of cases analysed

## 5. Analysis of the cases

Considering the multiplicity of entries into the questionnaire, it was necessary in a first instance to draw some main divisions to digest the cases into useful information. This exercise of categorization reflects the perspective of the analysts, for instance in the definition of the categories that are relevant for each subject, and also the interpretation of the elements reported by the fellows in their descriptions of the cases. In a second time, it was essential to retain some criteria to evaluate the cases and compare them, to draw some general conclusions.

### 5.1 Issues addressed and concepts of participation

As stated above, the cases are quite diverse concerning to the natural resource they focus on and the typology of problem addressed. The following (non-exclusive) types of issues addressed can be found:

- water/infrastructure impact (Venice mobile gates, construction of Alqueva dam, irrigation channels);
- water/WFD implementation (pilot participatory projects, management plans);
- biodiversity/ land use conflict, sometimes linked to water issues/ infrastructure (agro-environmental measures in Spain, Kiskunság National Park);
- biodiversity management/protection: protected areas, Natura 2000, Austrian biodiversity strategies;

- environmental restoration: removal of Krebsbach dam, Ahtialanjärvi lake;
- science-policy interfaces: conflict in the Sado estuary, FRAP project;
- others : legislation framework analysis, such as the Greek case.

If we look at the rationale that motivated participation, we can organize the cases into quite different categories:

- spontaneous/volunteer participation, for instance, the case of Körös-Maros National Park;
- spontaneous/opposition (Finnish Natura 2000, Slovak & Hungary Parks, Venice);
- pilot participatory projects for testing of methodologies and approaches: WFD pilot cases, FRAP in Sado estuary, Kiskunság National Park;
- classic “public participation” - information and/or consultation required by law, such as EIA: Venice mobile gates, Alqueva dam;
- consultation/stakeholder forums - Communal Liason Panel in NW RBD, FRAP research project, Austrian biodiversity strategy, management bodies for protected areas in Greece;
- partnerships - Ahtialanjärvi bird area, Finland.

The different cases described show that the functionalist concept of participation (Renn and Scheizer, 2009) prevails in water and biodiversity governance practice in Europe. In fact, most of the cases refer to the improvement of decision output and the consideration of all relevant sources of information and knowledge as the main motivations for conducting the participatory process. Some cases of deliberative participation are also described, in particular related to pilot implementation of the WFD. In almost all cases, participation processes attempted to include the stakeholders that are (or can be) potentially affected by a decision, although there are a few cases of public participation (mostly related with EIA procedures).

If we try to put the cases along the IAP2 spectrum of public participation (which is an adaptation of Sherry Arnstein’s Ladder of Public Participation, Arnstein, 1969), (Figure 3) we conclude that the cases are still mostly located in the information/consultation side of the spectrum, with only one case that can be included in the collaboration/empowerment side. This does not reflect a value judgment (that more to the right hand side is better), or an assessment of the quality of the processes themselves, but simply an observation derived from the cases. It is interesting to note that two cases (protests over NATURA 2000 implementation in Finland and Kiskunság National park in Hungary) are experiences of spontaneous participation, and that spontaneous action also played an important role in other cases. This is an interesting indicator of the growing role that environmental citizenship plays in the governance of natural resources in Europe.

## Place in the participation ladder

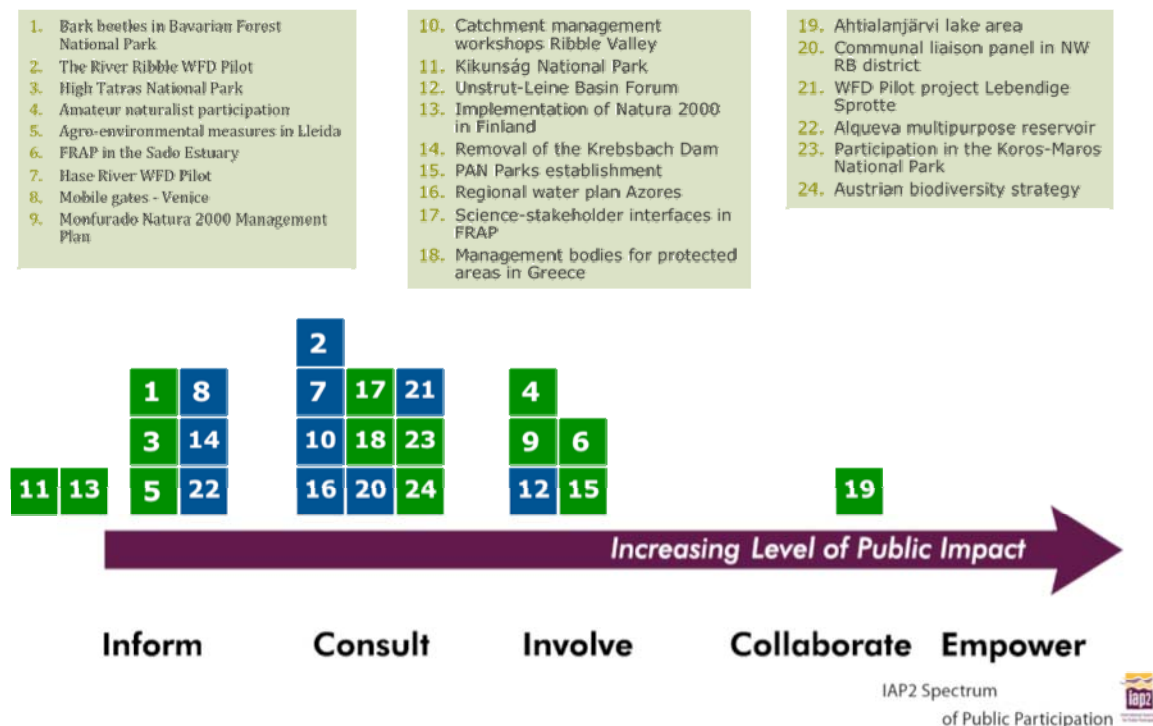


Figure 3 – Place of the cases in the IAP2 spectrum of public participation

### 5.2 Platforms and analytical tools

Many of the participatory processes described by the fellows refer to the use of workshops and focus group discussions as the platforms most commonly used to structure consultation and deliberation. The cases of public participation refer mostly to the organization of public hearings. Individual meetings and advisory groups also play a role in some processes. It is worth noticing that many cases do not refer to any form of structured participation, with the processes apparently organized in an ad-hoc basis.

The lack of use of participatory methods and discursive tools is a common and striking feature of many of the cases described. In the cases where some tool was applied, visioning workshops and scenario building exercises are the tools that are most frequently mentioned, (in particular in the cases dealing with the implementation of the WFD). Other tools mentioned in the cases are multi-criteria mapping and mediated modelling.

### 5.3 Multi-level governance

The case studies certainly reveal on the complexity to match the practice of multilevel governance to the whole theoretical literature. The cases selected confirm that the main challenges in the management of natural resources relate to the:

- (1) *Complex natural and social processes which create high levels of uncertainty;*
- (2) *Legitimacy of adopted institutional processes and of their consequences;*
- (3) *Social dynamics generated by new modes of governance;*
- (4) *Costs of governance processes, policy implementation, and failed decisions.*

*This complex interplay poses problems for the effectiveness and co-ordination of governance solutions (Rauschmayer et al 2007, p. 5). In fact, all these issues arise in the selected case-studies.*



only a relatively weak interplay between governance levels that emerges. In order to achieve the desired outcome, the appropriate combinations of analytical tools and participatory processes should have been defined and designed before, or at least during, the decision making process with this goal in mind. Except to a few exceptions, the cases described do not reveal the presence of an analytical frame, or the deliberate consideration of MLG aspects, applied to the situation ex-ante.

#### **5.4 Biodiversity and water governance**

The comparison of cases related with biodiversity versus water governance raises interesting issues from an institutional point of view. While there is no local/regional authority specialised in biodiversity governance, there is a special authority, the river basin administration, established on an ecological basis, that is in charge of water management. The role of participation in these two areas has matured in different ways: in water, decided and wanted by the authorities, not originally pushed by associations, while in biodiversity conservation there is a strong role from NGOs and stakeholders, pushing forward increased participation, with the authorities lagging behind (Rauschmayer et al. 2009b).

It is interesting to notice that most of the cases of spontaneous participation/protest are related with biodiversity governance. This may be a consequence of the above mentioned way in which participation has been institutionalized in the two areas, but can also be an indicator of the different stages where the implementation of policies are. While the implementation of the WFD is still in its early stages, where participatory processes are mainly related with testing of methodologies and approaches, with no “hard choices” having yet to be made, in the case of biodiversity, the implementation of Natura 2000 has already gone a long, and often conflictual, way.

The cases also illustrate quite clearly the problem of contradictory aims/or consequences of the EU environmental and agricultural policies and the way that these contradictions are perceived and influence action, either by the stakeholders, the population concerned and authorities.

### **6. Conclusions**

The analysis that was performed in WP2, had two main objectives: (1) a learning purpose – to provide GoverNat fellows an opportunity to work with the concepts that are central to the issue of multilevel governance of natural resources; (2) the development of a deeper understanding of water and biodiversity governance and to select cases for in-depth analysis in subsequent stages of the project.

The first objective was achieved by an initial analysis of one case per fellow through the initial analysis and evaluation grid (Rauschmayer et al. 2007), the thorough discussion of the grid by fellows and seniors, the adoption of an adapted and extended grid by the researchers working in GoverNat, and the analysis of the first and further cases by the early stage fellows.

The second objective was to be achieved partly by a systematic comparison of case-studies. However, the case-studies seem to have been chosen mostly on the base of the availability of information or on the base of familiarity of the researcher to the case itself, rather than on pre-established characteristics strictly fitting the purposes of GoverNat objectives. The multi-level dimension of the case-study is pretty much granted. In any case where there is a EU Directive at stake, one could say that we are in a multi-level situation.

The extremely high degree of variation of answers to similar questions and the recurrent lack of answers to certain questions of the questionnaire raise the issue of the usefulness of all the template questions for WP2, although they might reveal their value in later stages of the project. This first element obliged us at this point to make a selection of certain themes and discard others (for example the replies to the nature attributes in the cases are so varied that it is difficult to make any use of the information). The length and multi-faceted dimension of the finally adopted

questionnaire is also to be taken into account, because it multiplies the variables to consider in the comparative work, making the possibilities of analysis and reasoning maybe not infinite, but truly multiple.

In any way, the comparison and generalization of lessons from the cases should be taken with great caution, since it is difficult and uncertain to generalize any finding and to draw from that any kind of causal relationships between situations and results.

## References

Antunes, P., Kallis, G., Videira, N., Santos, R., 2009. Participation and evaluation for sustainable river basin governance, *Ecological Economics*, 68, 931-939.

Arnstein, Sherry R., 1969. A Ladder of Citizen Participation, *J. Am. Inst. Planners*, Vol. 35, No. 4, July 1969, pp. 216-224.

Conley, A., Moote, M., 2003. Evaluating collaborative natural resource management, *Society and Natural Resources*, 16, 371–386.

Currie-Alder, B., Thompson, L. Bustamante. R., 2006. Insights on Water Governance: Research in the Middle East/North Africa and Latin America. Presented at Survival of the Commons: Mounting Challenges and New Realities, the Eleventh Conference of the International Association for the Study of Common Property, Bali, Indonesia, June 19-23, 2006.

Fiorino, D., 1989. Environmental risk and democratic Process: a critical review. *Columbia Journal of Environmental Law*, 14, 501.

Hajer, M., 2003. Policy without polity? Policy analysis and the institutional void. *Policy Sciences*, 36, 175-195.

Moss, T., 2004. The governance of land use in river basins: prospects for overcoming problems of institutional interplay with the EU Water Framework Directive. *Land Use Policy*, 21, 85-94.

National Research Council, 1996. in: , Stern, P.C. and Fineberg, H.V., Editors, 1996. Understanding Risk: Informing Decisions in a Democratic Society Committee on Risk Characterization, National Academy Press, Washington, DC.

Paavola, J., 2004. Protected Areas Governance and Justice: Theory and the European Union's Habitats Directive, *Environmental Sciences*, 1, 59-77.

Pullin, A., Knight, T., Stone, D., Charman, K., 2004. Do conservation managers use scientific evidence to support their decision-making?, *Biological Conservation*, 119, 245–252.

Rauschmayer, F., Wittmer, H., Paavola, J., 2007, Multi-level Governance of Natural Resources: Tools and Processes for Water and Biodiversity Governance in Europe – A European Research and Training Network, UFZ Discussion Paper 3/2007, Helmholtz Centre for Environmental Research, UFZ, Leipzig.

Rauschmayer, F., Paavola, J., Wittmer, H., 2009, European Governance of Natural Resources and Participation in a Multi-Level Context: an Editorial, *Environmental Policy and Governance*, 19, 141-147.

Rauschmayer, F., van den Hove, S., Koetz, T. 2009b. Participation in EU biodiversity governance: How far beyond rhetoric? *Environment and Planning C*, 27,1, 42-58. DOI: 10.1068/c0703j

Renn, O., Schweizer, P.-J., 2009, Inclusive Risk Governance: Concepts and Application to Environmental Policy Making, *Environmental Policy and Governance*, 19, 174-185.

Rogers, P., Hall, A., 2003. Effective Water Governance. Global Water Partnership, Technical Advisory Committee Background Paper No 7., Global Water Partnership, Stockholm.

- Schusler, T. M. , Decker, D. J, Pfeffer, M. J., 2003. Social learning for collaborative natural resource management. *Society and Natural Resources*, 15, 309–26.
- Stern, P. C. and H. Fineberg (eds.), 1996. Understanding Risk: Informing Decisions in a Democratic Society. National Academy Press. Washington, DC.
- Stirling, A., 2006. Analysis, participation and power: justification and closure in participatory multi-criteria analysis, *Land Use Policy*, 23, 1, 95-107.
- Wesselink, A., 2008, WP1: Analysing Multilevel Water and Biodiversity Governance in their Context. Analysis and Synthesis of Consultations, GoverNat WP1 Report.
- Wittmer H., Rauschmayer F., Klauer B., 2006. How to select instruments for the resolution of environmental conflicts? *Land Use Policy*, 23, 1, 1-9.